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THOMISM AND THE NOUVELLE THEO LOGIE

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The purpose of this essay is to consider a particular incident in the theological history of this century, one with a significance extending beyond its own time and place.[1] This is the intellectual clash of arms between the chief representatives of what would shortly be called *la nouvelle theologie*[2]-*Jean* Danielou, Henri de Lubac, and others-and the classical French Dominican Thomism of the *Revue Thomiste,* in the years 1946 to 1948.

The Dominican intervention was an important moment in the chain of events that led to the promulgation of Pius XII's encyclical *Humani Generis,* in 1950, on false trends in modern teaching, and to the eclipse-temporary in nature as it would prove-of the reputations of de Lubac and the others which followed in that encyclical's wake. The wider significance of the episode is that it raises the question of the relation between, on the one hand, the Thomist tradition, and, on the other, that Neopatristic theology, consciously open to certain aspects of modernity while retaining a primary allegiance to the Christian sources in Bible and Fathers, which can be regarded as the chief inspiration of the Second Vatican Council and the predominant

[1] Fr. Romanus Cessario, O.P., has already signaled the importance of this episode in the pages of this journal: see idem, "An Observation on Robert Lauder's Review of G. A. McCool, S.J.," *The Thomist 56* (1992): 701-10.

[2] For general accounts, see: A. Darlapp, "Nouvelle Theologie," *Lexikon (Ur Theologie und Kirche* 7 (Freiburg, 1963), 1060; T. Deman, "Franzosiche Bemiihungen um eine Erneuerung der Theologie," *Theologische Revue* 46 (1950): 61-92; A. Nichols, O.P., *Catholic Thought since the Enlightenment: A Survey* (Pretoria and Leominster, 1998), 134-38.

theological influence on the pontificate of John Paul II. One has only to ponder the fact that both leaders of the *nouvelle theologie* mentioned above were made cardinals (the first by Paul VI, the second by the present pope), whereas their main Dominican critic, Marie-Michel Labourdette, entered the most total obscurity until the *Revue Thomiste* devoted an entire issue to him, under the title *Un maltre en theologie,* in 1992. [3]

Owing to a combination of perfectionism and the wounds sustained in this struggle, which the French Church historian Etienne Fouilloux does not hesitate to call "the only theological debate of any importance at least in France, between the condemnation of modernism and the Second Vatican Council," [4] Labourdette largely restricted himself to writing notices of books for the *Revue Thomiste* (though, admittedly, these were both numerous and judicious). In the course of the 1970s he was removed from teaching at the Dominican study house in Toulouse, owing to what his biographer, Henri Donneaud, calls discreetly "les malheurs des temps." [5] His principal work, the *Cours de theologie morale-a* commentary, but of a speculative and at times original kind, on the *Secunda Pars* of Thomas's *Summa Theologiae-has* enjoyed a posthumous career as a much-sought-after duplicated or photocopied work for many years.

The story opens with the publication in 1946 of an essay entitled "La theologie et ses sources" by Pere Labourdette, professor in the Dominican studium of the Province of Toulouse (at that time situated at Saint-Maximin in Provence) and editor of the *Revue Thomiste,* where the article appeared. It took the form of a studied criticism of two projects just launched by the French Jesuits: *Sources Chretiennes,* under the general editorship of Jean Danielou and Henri de Lubac, and the series *Theologie,* which was under the direction of the Jesuit faculty of Lyons-Fourvieres with Henry Bouillard, an historical theologian specializing in the

[3] *Un maitre en tbeologie: Le Pere Marie-Michel Labourdette, O.P.* = *Revue Tbomiste* 92, no. 1 (1992). Cited below as Mf.

[4] E. Fouilloux, "Dialogue theologique? (1946-1948)," in S.-T. Bonino, O.P., ed., *Saint Tbomas auXXe siecle: Actes du colloque Centenairede la "Revue Tbomiste." Toulouse, 25-28 mars 1993* (Paris 1994): 153. Cited below as DT.

[5] H. Donneaud, 0.P., "Une vie au service de la theologie," in Mf.

theology of grace, as its secretary. In point of fact, *Theologie,* which had by the time of Labourdette's writing produced eight volumes, had begun life in 1944, while *Sources Chretiennes,* which had docked up a total of ten, had been going since as early as 1942. But at that time of course Europe was involved in a global conflagration, in which Labourdette himself had been a military chaplain and, subsequently, a prisoner of war. Indeed he had only just recovered the editorship of the *Revue Thomiste,* entrusted to him for the first time in 1936 at the strikingly early age of 28. Though singling out for praise one of the *Theologie* works, Labourdette expressed grave reservations about the two series and called for a pacific but far-reaching debate on the nature and task of Catholic theology in their light.

Naturally enough, Labourdette had no objection to people making more readily available the writings of the Greek Fathers, which was the aim of the early volumes of *Sources Chretiennes.* No more did he think it reprehensible that, as with *Theologie,* Catholic scholars should investigate the history of Christian doctrine. Nonetheless he divined in both series what would now be called a "hidden agenda," and one unacceptable to a disciple of St. Thomas. For such a one, Scholastic theology alone represents, as Labourdette put it, Christian thought in its truly "scientific" state. While admitting that many of the products of Neo-Thomism left a good deal to be desired, he expressed himself as totally unwilling to jettison the proverbial baby with the bath-water. The two collections were, he thought, animated by a spirit of disapprobation of, and even contempt for, the Scholastic and especially the Thomist achievement, and worse still by a depreciation of intelligence in its search for abiding truth. The two series were tainted by a relativistic attitude-relativistic in two senses, as he went on to explain. Not only were their authors affected by historical relativism, treating truth as truth for this or that historical period-Henri Bouillard, notoriously, had written at the conclusion of his study of St. Thomas's theology of grace that a theology that fails to be contemporary is to that extent false[6]-they were also influenced by an experiential relativism,

[6] H. Bouillard, *Conversion et grace chez* S. *T710mas d'Aquin* (Paris 1944).

where a subjectivism of "inner experience" or "spirituality" could undermine the objective value of the truths of faith. The slope on which they had positioned themselves, the better no doubt to dialogue with existentialists and historical materialists, was an impossibly slippery one which could only end in the evacuation of the idea of speculative truth, of time-transcending truth, and even, ultimately, of truth itself.[7]

Who was thus placed in the line of fire? Those specifically mentioned, all Jesuits, were Bouillard, Hans Urs von Balthasar, Gaston Fessard, de Lubac, Pierre Teilhard de Chardin, but above all Danielou, mentioned unfavorably six times, five of them in connection with his 1946 essay "Les orientations presentes de la pensee religieuse," which had just appeared in the Jesuit journal *Etudes*.[8] It seems likely that Labourdette regarded Danielou's short study as the key to the hidden agenda of the two series, so it is evidently incumbent on us to gain an overview of its content.

Danielou's survey of current Catholic theology and philosophy falls into three parts. The first describes the movement of *ressourcement* with its return for inspiration to early Christianity through the biblical, patristic, and liturgical revivals. But, as Danielou goes on to maintain in the second, central, panel of his triptych, such forms of return to the sources cannot by themselves guarantee the renewal of Catholic thought that the post-War world demands. Philosophies of suspicion have arisen-he had in mind both existentialism and Marxism-that are appealing either to the historical process or to the personal struggle for identity. Catholic thinkers, Danielou goes on, must not hesitate to follow the representatives of these alien philosophers onto their own home ground, the better to respond to them-as figures such as Teilhard de Chardin and Gabriel Marcel were, he mentions, currently doing, if not always with complete success. Danielou concluded this part of his article by affirming that some kind of phenomenological method should henceforth become the basis for, at any rate, all theology that set out to describe "religious

[7] M.-M. Labourdette, O.P., "La theologie et ses sources," *Revue Tbomiste* 46, no. 2 (1946): 353-71.

[8] J. Danielou, S. J., "Les orientations presentes de la pensee religieuse," *Etudes* 249 (1946): 5-21.

realities in their concrete form. "[9] Finally, Danielou went on to say how stirrings in the lay apostolate were challenging philosophers and theologians. "Activists" (these were still halcyon years for "Catholic Action") and the faithful at large were seeking not just a spirituality but also a theology that would answer their specific needs. Though he never mentions St. Thomas by name, Danielou gives the distinct impression that Scholastic theology will not have much of a role in all of this. Such theology is, he intimates, an obsolete stage in the development of Christian thought. It is now time to move on-and perhaps more than time, for he speaks of Scholasticism as an increasingly rationalist and desiccated theology, detached in an abusive sense from spirituality, and above all peculiarly unsuited by its own genius to what a contemporary sensibility requires.

> It is very plain that Scholastic theology is foreign to these categories [of historicity and subjectivity] which are at the heart of contemporary reflection. Its world is the immobile world of Greek thought where its mission of incarnating the Christian message was lived out. This conception retains a permanent and ever valid truth to this extent at any rate that it consists in affirming that man's decision for freedom and his transformation of the conditions of life are not an absolute beginning where he acts as his own creator, but rather humanity's response to a divine call itself expressed in the world of essences. And yet ... [Scholastic theology] gives no place to history. And moreover locating reality as it does more in essences than in subjects it ignores the dramatic world of persons, of universal concretes transcending all essence and only distinguished by their existence-that is, no longer distinct from one another by intelligibility and intellection but by value and love-or hate. [10]

Neo-Thomism, like the Pontifical Biblical Commission, Danielou goes on, was a railing ("un garde-fou") to keep Modernism at a safe distance. But a railing cannot count as a reply, and though Modernism had been a false answer it had set a real question. Danielou's manifesto, then, even if its primary purpose was to trumpet the glories of *ressourcement* and the need to engage with

[9] Ibid., 17.

[10] Ibid., 14. We should probably see in Danielou's references to "love" and "hate" the influence of Max Scheler's "phenomenology of love and hatred," which Scheler presents as a basis for the apprehension of value (but not of the values themselves).

contemporary thought, had as a subsidiary purpose the marginalization of Scholasticism in this new context. Some of its points were easily countered-Leonine Thomism for instance could hardly have been a defensive reaction to the Modernism not yet conceived when it was born. But enough darts had struck home to anger and even distress.

What gave these darts especial force was both Danielou's reputation and the fact that though de Lubac is never mentioned by name in "Les orientations presentes de la pensee religieuse" it was *his* already impressive body of work that Danielou was implicitly putting forward as the model for French theology in the future. Danielou, author of a Sorbonne doctoral thesis on Gregory of Nyssa, professor of Christian origins at the Institut Catholique, editor of *Etudes,* creator of the review *Dieu vivant,* and coming from an unusually secular background for a French cleric, or religious, of the period (his family were staunch Republicans and he had studied at non-Catholic university faculties prior to entering the Society), was someone who both intimidated and alarmed more conventional or at least typical Catholics. De Lubac, his Jesuit mentor, was well-placed to serve as the very model of a modern Catholic apologist-what with his 1938 study *Catholicisme,* where he set out to show how effective the Fathers could be in a self-consciously state-of-the-art presentation of the faith, and his 1944 *Le drame de l'humanisme athee,* with its sympathetic enterings into the minds of Dostoevsky or Nietzsche the better to answer their queries. Yet even Yves Congar-no opponent of historical theology-had been moved to write privately to de Lubac on the publication of his *Corpus mysticum,* [11] a study of the relation between the Eucharist and the Church in patristic and pre-Scholastic mediaeval thought, reproving him for an attack on Scholasticism; de Lubac, however, simply denied it had ever been the least part of his intention to make such an attack.

These two figures alone would surely not have sufficed to cast the Thomist and Dominican camp in France into a slough of despond, or at any rate a sense of aggrieved victimhood. In fact,

[11] Exchange of letters February 27-March 1, 1947, in *Archives de la province jesuite en France,* described in DT, 165.

there was more. The war and the German occupation, during which period both Marxism and existentialism had made major strides, had significantly altered the cultural climate, rupturing links with the world of the 1920s and 1930s where the Thomism of Jacques Maritain, Etienne Gilson, and the Dominicans themselves had been widely discussed by believer and unbeliever alike. The Fribourg Thomist Charles Journet wrote in 1945 to Maritain, "In this disintegration of the world, if you try to stay faithful to St. Thomas, they think you're mad." [12] A new outlook was entering the Church which Maritain, for his part, did not hesitate to call "anti-intellectualist." Greater precision can be given that word on the basis of a second letter from Joumet who complained of a tendency to

> put between brackets the conceptual formulation of maybe even the revelation but certainly the theology and philosophy we have received from the Middle Ages ... [which tendency] tries to rejoin the Greek Fathers to the extent that their doctrine is tacit, not to mention preferring a formulation that plays on a conceptual keyboard borrowed from Hegel and Existentialism. [13]

This Journet associated both with de Lubac and what he called his "entourage," as well as with the Dominican Augustin Maydieu, a figure heavily involved in the Resistance and subsequently editor of *La vie intellectuelle,* the organ of philosophical and theological *haute-vulgarisation* of a Paris Province less concerned with Thomist consistency than was its neighbor of Toulouse. In an unpublished article of the same period, Maritain summed up Journet's anxieties in a memorable phrase as theologians "re-inventing the Fathers of the Church to the music of Hegel." [14] It is worth noting that Maritain was Labourdette' s great intellectual inspiration. On becoming editor of the *Revue Thomiste,* the latter

[12] Letter of 9 August 1945, in *Archives des Cercles Jacques et Raissa Maritain, Kolbsheim,* cited in DT, 158.

[13] Letter of 27 December 1945, in *Archives des Cercles Jacques et Raissa Maritain, Kolbsheim,* cited in DT, 158.

[14] Donneaud, "Une vie au service de la theologie," in MT, 25. It was true that Fessard's philosophical method was precisely to compare Hegel's *Phenomenology of Spirit* to Blondel's *L'Action.* See N. H. Gias, *Le verbe dans l'histoire: La philosophie de la historicite du P. Gaston Fessard* (Paris, 1974). On Fessard, see M. Sales, "Bio-bibliographie du P. Gaston Fessard," in G. Fessard, *Eglise de France, prends garde de perdre ta foi* (Paris, 1979), 286.

had at once written to Maritain, not just seeking his help and collaboration but frankly placing the journal under the patronage of his ethical, intellectual, and spiritual ideas. As Labourdette wrote in a letter of November 1936:

> On arriving at the *Revue Thomiste,* I could not fail to consider somewhat as a program the defense and illustration of the ideas developed in *Science et Sagesse* and *Les Degres du Savoir,* as also the rehabilitation of the true notion of what theology is, so impoverished as this has been since Melchior Cano [the Spanish Dominican moved by his reading of Cicero to propose that theological treatises should be constructed as surveys of theological monuments, *loci theologici].* This is why I count so much on you and your friends. [15]

"Your friends"-of whom Journet was, in Labourdette's estimation, second only to Maritain himself. Finally, the anonymous underground circulation of works which would never have obtained a *nihil obstat,* mostly ascribed to Teilhard de Chardin and his fellow-Jesuit Yves de Mountcheuil (shot by the Germans before the war ended), helped to convince Labourdette that, in Fouilloux's words, "a concerted enterprise of destabilization of the Scholastic method was at work in France," [16] of which the two series, *Sources chretiennes* and *Theologie,* were only the tip of the iceberg.

De Lubac, in keeping with his much cooler tone (compared with Danielou), indicated to Fessard that he had no intention of replying to the forthcoming attack in the May/August 1946 issue of the *Revue Thomiste.* But events decided otherwise. On 17 September 1946 Pius XII delivered an address to the General Congregation of the Society, at which de Lubac was present. He heard the Pope refer in a context apparently uncomplimentary to the "new theology." Two days later, offprints of Labourdette's essay, joined with a critical review of *Corpus mysticum* by Labourdette's confrere Pere Marie-Joseph Nicolas in the same fascicule, arrived on de Lubac's desk. What was happening?

In part, if we are to look at the events in terms of general history, the political divisions of French Catholicism were beginning to express themselves by proxy. De Lubac, deeply

[15] Letter of 13 November 1936, fonds *Revue Thomiste,* cited in Mf, 26.

[16] DT, 159.

committed to the Resistance, was supported by the newly empurpled pro-de Gaulle cardinal Saliege of Toulouse against attacks on his theological approach sent semi-clandestinely to Rome by the erstwhile supporters of Marshal Petain and the regime of Vichy, or even, for that matter, by members of the nationalist-monarchist *Action Fraru;aise,* now thirsting for some form of revenge after the years their movement had spent in the ecclesial wilderness. (Proscribed by Pius XI, it was only disencumbered of canonical penalties as war broke out, by Pius XII.)

In January 1946 Maritain, now French ambassador to the Holy See, had reported to Journet the disquiet at Rome about the intellectual tendencies in France, but thought the most the pope was likely to do would be to publish some kind of positive if rather platitudinous document about the nobility of speculative philosophy and theology and the need for Catholic thought to continue to draw inspiration from Thomas. But Pere Reginald Garrigou-Lagrange, *doyen* of the *rigorissimi* Thomists of the Angelicum, and a highly active consultor of the Holy Office, seems to have expected more of a slapping down for the errant Jesuits when in June of that same year he confided to Nicolas that he personally had briefed the pope on Labourdette's forthcoming article; some weeks later, Pius XII sought out Maritain's own views on the matter. The Pope's phrase "the new theology" may have been fed him by Garrigou, though this is not certain, [17] and the highly negative interpretation put upon the phrase almost as soon as it was uttered depends in part on that (putative) link, for Garrigou had written in July 1946 to Labourdette calling Danielou's "Les orientations presentes" "the manifesto of this new theology .... Here [at Rome] we are highly attentive to this movement, which is a return to Modernism." [18] De Lubac would deny that the phrase *nova theologia* was at this stage intended as an attack on him and his collaborators. In his *Memoires sur*

[17] A. Russo, *Henri de Lubac: Teologia e dogma nella storia. L'influsso di Blonde/* (Rome, 1990), 145-46. De Lubac had himself used it in the first part of *Surnaturel* which, despatched to the censors in August 1941, had received a *nihil obstat* in May 1942. Also, *L'osservatore Romano* for 9-10 February 1942, in an article by the future cardinal Pietro Parente, had attacked "nuove tendenze teologiche" emanating from France.

[18] Letter of 17 July 1946, DT, 170.

/'occasion de mes livres, he notes how at a .Castel Gandolfo audience during the course of the Jesuit gathering the Pope had said to him in friendly, not threatening, fashion, "Je connais votre doctrine," and the Jesuit General, when the congregation was over, confirmed with both the Holy Office and Pius XII himself that de Lubac was well considered. [19]

Both inside the Society and outside matters looked different. Journet told Fessard that the object of the Pope's remarks was virtually the same as the group lambasted by the *Revue Thomiste.* Yet the claim that the *nouvelle theologie* was Modernism *redivivus* was not one Labourdette had ever made. The reply of the incriminated Jesuits was published at the behest of the Roman authorities of the Society, and widely diffused in offprinted form. As de Lubac admitted in a letter of 1988 to the Italian historian of theology Antonio Russo, he himself was the main author of the anonymous "Reponse" which went out through the pages of .the premier French Jesuit journal *Recherches de science religieuse* for 1946-though he had enjoyed assistance from Danielou, Bouillard, Fessard, and Balthasar. Typical of de Lubac in polemical mood is the abrasive tone apparent in, for instance, the comment that, "If the evil days of Modernism are now, thank God, far from us, the evil days of integralism may be coming back." [20] Its main point, however, was simply to rebut without necessarily refuting the charge of historical and doctrinal relativism. The authors targeted by the Toulouse Dominicans, so readers were assured, show not the slightest trace of historicism, whereas-taking the war into the enemy's country-a certain Scholastic theology possesses the contrary vice in its own thorough insensitivity to history. The Jesuit writers maligned by the Dominicans for incipient irrationalism rejoice in the role of the mind, and not just the heart, in theology, but they fear-not without reason when looking at some products of Scholasticism-the perversion of intelligence into intellectualism.

[19] H. de Lubac, S. *J., Memoires sur /'occasionde mes livres* (Namur, 1989), 62-63.
[20] Cited in DT, 174.

Catholic truth will always exceed its own conceptual expression, and even more so, therefore, its scientific formulation in an organized system.[21]

What the Church needs, its authors conclude, is "freedom for theological schools within a single orthodoxy." What she does not at all need, or deserve, is the willed imposition of some particular system of thought in the name of the faith as a whole. Other than this, the anonymous Jesuits refused to enter into any further debate.

If they supposed they would end the affair by such a sharp rebuke they were sadly mistaken. In February 1947 the pot boiled over. In that journal of the "petite Rome" of Switzerland, *Liberte de Fribourg,* the prestigious Polish Dominican logician Innozent Bochensky spoke of the new theology as a radical evolutionism and irrationalism which would warm up the tired remains of Modernism. Garrigou-Lagrange then dropped his "atom bomb," the article "La nouvelle theologie, ou va-t-elle?", in the pages of *Angelicum.*[22] And if his answer to his own question ("where is the new theology going?") was "back to Modernism," he also knew where it had come from: the French lay philosopher Maurice Blondel's fateful definition of truth in his master-work *L'action* not as *adequatio rei et intellectus,* the correspondence of reality and mind, but *adequatio vitae et mentis,* the correspondence of mind with *life.*[23] It was perfectly true that Bouillard, as general editorial secretary of *Theologie,* had defined the aim of the latter

[21] Cited in DT, 172.

[22] Garrigou was keenly alert to Blondel's influence: thus his "La notion pragmatiste de la verite et ses consequences en theologie," in *Acta Pontificiae Academiae S. Thomae Aquinatis IX* (1944), 153-78. That is an important key to his "La nouvelle theologie, ou va-t-eile?", *Angelicum* (1946): 126-45. See also B. de Solages, "Pour l'honneur de la theologie, les contre-sens du R. P. Garrigou-Lagrange," *Bulletin de litterature ecclesiastique* 2 (1947): 65-84.

[23] Certainly Bouillard was heavily indebted to Blonde!: see his "L'intention fondamentale de Maurice Blonde! et la theologie," *Recherches de science religieuse* 36 (1949): 321-402; idem, "Maurice Blonde! et la theologie," *Recherches de science religieuse* 37 (1950): 105-12; and his full-length study, *Blonde/ et le Christianisme* (Paris, 1961). For Bouillard's own work useful is K. H. Neufeld, "Fundamentale theologie in gewandelter Welt: Henri Bouillards theologische Beitrag," *Zeitschrift fur katholische Theologie* 3 (1978): 417-40. *As* to de Lubac, one student can write, "Blonde! more than any other is the author to whom de Lubac repeatedly sends us back" (A. Russo, *Henri de Lubac* [Cinisella Balsamo, 1993], 10).

as "to draw Christian doctrine own weHsprings, and to find in it the of our "[24]

Meanwhile, election of Nicolas as provincial of Toulouse ensured Labourdette's hands would not be tied from above. Indeed, Nicolas judged an immediate reply to the Jesuit "Reponse" to be a necessity for the defense of the Dominican understanding of the vocation of the more so, as he explained to Labourdette, in that having just returned from a meeting on missionary effort in France at L'Arbresle, the study house of the Province of Lyons (the meeting in question was of enormous importance in gestation of the worker priest movement and crisis in relations between the French Church and Rome which it precipitated) could weU believe that flight from doctrinal and theological truth might be the pattern of the future. AH the Dominicans of Saint-Maximin, the intelligentsia of Toulouse Province, were convinced that the line taken the Lyons Jesuits, if widely followed, would spell disaster for the fortunes of Thomism in the Church. Where they differed was only on the of whether it was right or appropriate to seek the arbitration of the Roman magisterium. The refusal to print the Garrigou article in the pages of the *Revue Thomiste* amounted to a decision not to pursue the notion of a Roman intervention-a decision which, Labourdette prophesied, would place them between two millstones where they would be crushed simultaneously from right Angelicum of Garrigou, the Catholic University at Angers, and Solesmes, the influential and highly conservative Benedictine congregation of France), and from left (Cardinal Salieges, the Institut Catholique de Toulouse, and de Lubac).

This did not mean, however, that Labourdette and Nicolas would soften their as became plain when their response to the "Reponse" saw the light of day in May 1947.[25] They maintained that the metaphysics of St. Thomas is, quite simply, true, not just as an hypothesis or as the expression of a mentality but objectively and by the nature of things. Moreover, they claimed

[24] Cited by de Lllbac, *Mbnores sur !'occasion de mes livres,* 29.

[25] M.-M. Labourdette, O. P., and M.-J. Nicolas, O. P., "L'analogie de la verite et l'llnite de la sciem:e thfologiqlle," *Revue Thomiste* 55 (1947): 417-66.

of Thomism that it was not only a theology of nature and essence but also a theology of event and therefore in a real sense a theology of history; they accepted that theology is not revelation, and however perfect it may be leaves open spaces that premature appeal to the magisterium ought not to foreclose; they state nonetheless that they cannot be regarded as mere partisans, for Thomism is not a party but the philosophy and theology of the Church herself-even if what is most profoundly at stake in the present quarrel is not the rights of the doctrine of St. Thomas so much as those of theology itself when considered as a veridical science of God and his relations with the world.

It was Labourdette who had given the most eloquent expression to this view, not only in "La theologie et ses sources" but also in a programmatic statement, "La theologie, intelligence de la foi," which had preceded the essay on the sources of theology in the January/March 1946 issue of the *Revue Thomiste.* [26] Labourdette feared that in the future there might be historians of the thought of St. Thomas, curators of a Thomist museum, but not actual disciples of Thomas. An excessive or, worse, an exclusive delight in historical truth was, he held, an obstacle to any mind desirous of an integral intellectual development. Erudition can cease to be at the service of thought and transform itself into a pretext for refusing the question of truth: what Aquinas himself had called *curiositas.* It is not enough to be an historical theologian, to lmow how problems were posed in the past. One must have an answer to them now. Nor is there any need to cobble together a new philosophy and theology for this purpose for one already exists that can do the job. The Thomist synthesis is essentially true in its principles; though imperfect, it is, therefore, eminently perfectible by contemporary and future effort. Better than anyone before him Thomas grasped the foundational truths of metaphysics and how to build on them a synthesis which would be all the more hospitable to every truth precisely because dependent on a true metaphysic. The essential task of Thomas's disciples is to integrate into this truth all newly discovered truth, including nuggets of truth occurring in

[26] M.-M. Labourdette, "La theologie, intelligence de la foi," *Revue Thomiste* 46, no. 1 (1946): 5-44.

philosophical and theological systems otherwise false, and this requires both critical vigilance and constructive effort. In and of themselves, however, the other systems-Scotist or Hegelian, existentialist or evolutionist-are irreconcilable with Thomism and so one has to choose.

Labourdette stressed that Thomism was not an eclectic product but a structured organism thanks to those theological metaphysical principles, universal in their bearing, which had aHowed it to assimilate and tum into wisdom what was best in the traditions that preceded Thus, while rejecting a "fixisme" would look only to of St. Thomas's texts (such a policy would contradict the demands of theological research and the spirit of Thomism itself, as well as lead to the inevitable extinction of the latter as a living system), he also spurned a "mobilisme" that would conceive the history of theology as the continuous substitution of systems and schemes in dependence on what struck people as better adapted to current needs or present-day intellectual styles. idea that what one should take from Thomas is, for example, the spirit of openness which led him to welcome the work of Aristotle Labourdette stigmatized as a "sottise" that betrays a complete lack of understanding of what theology is. Thomism cannot be a state of mind of openness to modernity since by itself this does not answer the question as to what doctrinal, philosophical, and theological principles could make such an openness fruitful precisely the Christian

Labourdette emphasized with particular vigor that the prime value of Thomism does not reside first and foremost in this or that thesis prnposed by Thomas, but in the fact that Thomism realizes the complete idea of what theology should "la notion integrale de la theologie." [27] is what enabled the Toulouse Thomists to claim that their struggle was not for Thomas *qua* Thomas, but for theology itself-for that intellectual enterprise which would think through the corpus of Christian doctrine on the basis of soundly established metaphysical first principles. Everyone can agree that theology is faith seeking understanding, but St. Anselm's is only a minimum definition of the task There

[27] S-T. Bonino, O.P., "Le Thomisme du P. Labourdette," in MT, 95.

is no theology properly so called until this understanding of the faith has constituted itself as a science, culminating in a speculative synthesis-at one and the same time the matured fruit of contemplation and yet something capable of being taught to others. Such a speculative synthesis, Labourdette thought, should aim to reproduce in the human mind, and so in a human way, the totality of what is given to us through both natural understanding and divine revelation in that totality's own intelligible structure. This and this alone explains why St. Thomas calls theology at its highest *quaedam impressio divinae scientiae*, "a kind of impression of the divine knowledge. "[28] In the thirteenth century there took place a providential encounter of the true religion with the true philosophy, and the faith of the Church Fathers, which hitherto had not found its proper conceptual instrument, now had this within its grasp. Though much in historicAristotelianism had to be rethought by Christian theologians, the idea of attempting to go behind the "Thomist miracle" to any understanding of the faith typical of an earlier . epoch is inadmissible, a betrayal of theology's very essence.

For Labourdette, the study of the Christian mystery via the ruminations of the Fathers is not, *senso strictu*, theology. But then, for him, theology is not the whole of Christian thought. Theology can only play its part within the wider corpus of Christian thinking and contribute effectively to the Church's life if it jealously preserves its own specificity-which is that of a sacred *science,* faithful to its own needs and methods, and not to those identified by pastoral surveys or general intellectual history.

By the summer of 1947 (to return to the *deroulement* of the drama), the French episcopate had begun to express anxiety about the negative effect the entire debate was having on the Church's image among unbelievers. Labourdette replied that, fortunately for the faith, such public-relations considerations had not been the primary preoccupation of St. Athanasius. In their own correspondence, the Jesuits concerned ridiculed the Dominicans as intellectually second rate. Surely, wrote de Lubac, their time would be better spent in choir. Nicolas came to fear, as he wrote

[28] Aquinas, *Summa Tbeologiae* I, q. 1, a. 3, ad 2.

to Garrigou, that before crossing swords with such men it would have been advantageous to enjoy an intellectual culture equal to their own.

By Easter 1947, Saint-Maximin was ready to extend an olive branch, and Labourdette wrote an irenic piece conceding the liberty of the various theological schools but not their parity.[29] The Roman Dominicans considered its somewhat contrite tone uncalled for. They need not have feared the too facile triumph of those who cry peace where there is no peace since insufficient mutual good will was forthcoming to create a real reconciliation, though many tried-most ambitiously the Oratorian and convert from Calvinism Louis Bouyer who, together with the Jesuit Plotinus scholar Paul Henry, wanted to secure the signatures of all the leading Catholic intellectuals in France to a common statement on the interrelation of revelation, dogma, and theology.

In 1950 Pius XII issued *Humani Generis*, a critique of certain errors in modern thought and, owing to complaisance in these, of displeasing tendencies in current philosophy and theology in the Catholic schools. "We are satisfied," the Pope wrote,

> that Catholic teachers in general keep clear of these errors, but it is certain that there are others, now as in the time of the apostles, who have too ready an ear for novelties.[30]

Whom did this cap fit? Some conservative theologians, after all, were disappointed at the encyclical's comparative moderation and the pope's refusal to issue condemnations of named writers-=--even of the highly exposed Teilhard de Chardin. Alerted by the Saint-Maximin controversy, the Jesuit authorities were sure it must at least fit Bouillard and de Lubac, who were consequently deprived of their teaching roles. By de Lubac's own account, the Pope had changed his good opinion of him of three years earlier, interrupting Cardinal Gerlier of Lyons when the latter defended him with the words, "The trouble with him is that you never

[13] M.-M. Lahourdette, O.P., "Fermes propos," *Revue Tbomiste* 47 (1947): 5-19.

[30] *Humani Generis*, 10. See G. Weigel, "The Historical Background of the Encyclical *Humani Generis*," *Theological Studies* 12 (1951): 208-30, and idem, "Gleanings from the Commentaries on *Humani Generis*," *Theological Studies* 12 (1951): 520-49.

know whether what he says or writes corresponds to what he is thinking." The most discussed of the various works arraigned in "La theologie et ses sources"- "Les orientations presentes" at their head-were removed from the open shelves of Jesuit libraries. To the French Jesuits thus treated, the events of 1950 and the years following were a monstrous nightmare: in their eyes, the true "nouvelle theologie" was the late Scholasticism defended *a l'outrance* by Garrigou and with much more nuance by Labourdette. *This* was the upstart theology alien not only to the Fathers but to the Golden Age of the thirteenth century itself. That was the point at issue with de Lubac's study of the relation between human nature and the vision of God in his *Surnaturel*- by 1950 the most controverted contribution to the series *Theologie,* though its appearance in the summer of 1946 had been too tardy for it to receive notice in the Labourdette essay.

Ignorant of all the relevant facts, Congar accused Labourdette of "arming the infernal machine" [31]-meaning the machinery which, somewhere in the recesses of the *Curia romana,* had coerced the Jesuit generalate into taking such action. In fact, Labourdette had genuinely desired not condemnation but dialogue. In a fashion psychologically easy to envisage, he found himself disabled for the future from very much in the way of critical animadversion on the direction the Church and theological life were taking. Hence, despite the reservations expressed in his diary for the Second Vatican Council's first session, he rallied to the conciliar majority at the beginning of Paul VI's pontificate (not that this would save him in the post-1968 era).

For Thomism, the vindication by the council of the maligned directors of *Sources Chretiennes* and *Theologie* was, in all the circumstances, not the best of news. For contrary to Labourdette' s intention, the fatal impression had been given that recourse to the Fathers, to Church history, and to contemporary thought are scarcely compatible with a firm adhesion to the Thomist patrimony. The victory for those who represented the patristic revival, a better-informed theology, and a pastorally motivated interest in contemporary thought could only appear as the defeat

[31] DT,193, paraphrasing letters of 4 and 8November1949, and 1February1952, in the *Papiers Congar.*

of Thomism itself. Some words of Pere Marie-Dominique Chenu, around the time of the crisis, proved pro-phetic. Writing in May 1945 a propos of Bouyer's *Mystere pascal,* just published, he remarked (referring to the four movements of theological renewal-the biblical, the liturgical, spiritual, and the apostolic):

> In the measure that we, the professionals of Scholasticism ... dose ourselves to this fourfold renewal, we shall lose both Scholasticism itself and contact with the life of the Spirit. [32]

But the crucial question was, how is the relation of Thomism with such return to the sources and the dialogue with contemporary thought to be mediated? This was the real question raised by Labourdette but never squarely answered. The issue of the legitimate pluralism of Catholic philosophy and theology, and yet the unique place to be accorded to the classical speculative thought of St. Thomas and his continuators [33] within this charmed circle, remains as actual and unresolved today as in the years when the events I have tried to describe unfolded.

Some brief indications of the direction of a possible answer may be appended. Because "to be" is the most foundational of all words expressive of real, a metaphysics of being has to provide the basic grammar for a theology that would justice to truth of reality. A theology that thinks through the materials of divine revelation in this perspective must therefore enjoy a primacy among the various possible intellectual adventures that issue from the act of faith. Let us call it "the dassical ontological theology," which, historically, is deeply indebted to if not exactly coterminous with Thomas and his school.

Not all theologies have this aim. They may, Hke that Deny-s in the ancient Church, seek in the context of the spiritual cosmos

[32] Letter of 23 March 1945, cited in DT, 159.

[33] In the Dominican Constitutions Labourdette would have studied as a novice at Saint-Maximin, we read: "the solid doctrine of St. Thomas-which our Order proposes and orders our brothers to follow-is not only that which is expressed without any doubt in the works of the angelic doctor, but also that which is taught by his school, thus called because it manifests the thought of that doctor" *(Constitutiones, S.* 0. *P.,* ed. L. Theissling [Rome, 1925], no. 26, p. 261).

and the sacramental order of the Church to bring about our mystical return to the One, or, like that of Balthasar in the modern Church, try to express the supreme beauty of the gospel and its unsurpassable dramatic power. Such theologies are hardly in competition with the classical ontological theology. Indeed, they would suffer from its diminution since, if they are orthodox, they depend upon it (knowingly or not, because its full articulation may occur at a point subsequent to their own historical moment) for the metaphysical presuppositions of their own catholicity. Those presuppositions the Church has recognized as required by the biblical revelation (to which all theologies are tributary) in sanctioning the classical ontological theology itself.

The Toulouse Dominicans were right, therefore, to claim as much as they did for Thomas, but wrong in allowing so little *droit de cite* to the *nouvelle theologie.* It is not the case that, grudgingly, the other theologies are permitted to exist until Thomism has absorbed their better insights (whereupon, like the Marxist State, they can wither away), though Thomism certainly should absorb what it can from them consonant with its own proper aim. Rather is it the case that their differing theological functions should be honored so long as they define their functions in a way that leaves the irreplaceable role of the classical ontological theology intact. This is the twist I would give to the commendation of Scholasticism in *Humani generis:*

> No surer way to safeguard the first principles of the faith and turn the results of later, healthy developments to good advantage. [34]

[34] *Humani generis, 31.*

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THE ARISTOTELIAN BACKGROUND TO AQUINAS'S DENIAL THAT "WOMAN IS A DEFECTIVE MALE"

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INTRODUCTION

One of the commonplaces of the contemporary reading of Aristotle is the belief that he holds that "a woman is a defective male." He is also believed to hold that the female, both animal and human, is passive whereas the male is active, and that the male human embryo receives a rational soul earlier than does the female. The same positions are attributed to the heirs of his philosophy, notably Aquinas.

In point of fact, Aquinas rejects the suggestion that "a woman is a defective male" no fewer than six times.[2] His Franciscan colleague Bonaventure also denies explicitly that woman is defective.[3] Nor does Aquinas say that the male human embryo is ensouled earlier than the female. The defects in the common reading involve, at their core, a misreading of Aristotle. It is the central contention of this paper that Aristotle holds none of the positions mentioned above.

It is true that Aristotle writes *to thau hi5sper arren esti peper6menon* (the female animal is as it were a *peper6menon*

[1] Requests for reprints should be addressed to the author at Maurice Kennedy Research Centre, National University of Ireland Dublin, Belfield, Dublin 4.

[2] Aquinas, II *Sent.,* d. 20, q. 2, a. 1, ad 1; IV *Sent.,* d. 44, q. 1, a. 3c, ad 3; *Summa Ibeologiae* I, q. 92, a. 1, ad 1; *Summa Ibeologiae* I, q. 99, a. 2, ad 1; *De Veritate,* q. 5, a. 9, ad 9; *Summa contra Gentiles* III, c. 94.

[3] Bonaventure, II *Sent.,* d. 20, a. un., q. 6, ad 1.

male)[4] and thatthe root meaning of *peperamenon* is "mutilated."

it is a word that has different meanings in different contexts, rather as the word "lost" different meanings when we say that someone lost a purse, lost an eye, lost a game, or indeed lost his life. Meanings depend on context. If one reads in a book of English law that "the Queen can do no wrong," one may be initiaHy surprised at this seeming assertion of royal sinlessness, but the phrase simply means that the Queen cannot be prosecuted or sued in English courts. Aristotle's phrase, when set in its context, that of theory of generation or reproduction, likewise does not carry meaning it has at first sight.

One should note that Aristode does not say that woman is *peperamenon,* but rather that the female of any species *(to thi1u)* is *peperamenon.* The phrase occurs in his general account of animal reproduction and it has no specific reference to woman, though it does of course apply to her. Naturally, Aquinas and Bonaventure, as Christian thinkers, give the phrase particular attention precisely because it could be taken to imply that woman, whom God fashioned, is defective. This they vigorously deny.

Moreover, Aristotle does not write that the female animal is a *peperamenon* male, but that it is as it were *(h6sper)*a *peperamenon* male. *H6sper* (or *h6s per)* is a word limits or modifies an assertion, like the Latin *tanquam.* [5] the Middle Ages William of Moerbeka translated it as *quemadmodum,* [6] and Peck's modern translation gives "as it were." [7] An initial purpose of the present is accordingly to inquire what Aristotle means by saying female is as it were *peper6rnenon."*

[4] Aristotle, *On the Gmeration ofAnimals* 2.3.737a28 (hereafter GA).

[5] Liddell and Scott, *Greek-English Lexicon* (revised by Stuart Jones and McKenzie), s.v. ***hOanEp.n***

[6] He writes "femella est quemadmodum orbatus masculus." See *Aristoteles Latinus: De GenerationeAnimalium,* trans. Guillelmi de Moerbeka, ed. H.J. Drossart Lulofs (Brnges and Paris: Desclee de Brouwer, 1966).

[7] A. L. Peck, trans. and ed., *De Gmeratione Animalium,* Loeb Classical Library. Most of the translations in this article follow this great Cambridge scholar, who devoted thirty years to the study of Aristotle's biological works.

I. ARISTOTLE

A) Meanings of pepih5menon and Related Words

Peperamenon is the neuter of the passive participle of the verb *peroi5,* "to maim or mutilate," the masculine and feminine forms being *peperamenos* and *peperamena.* (In this article the neuter form is used except in verbatim quotations from the Greek.) With such related words as *perama* (a mutilated or imperfect animal), *perasis* (mutilation, imperfection), *anaperos* (much mutilated), and *anapifria* (a state of mutilation), it is often found in Aristotle.

Peperamenon and related words are used metaphorically in the *Ethics.* A person may be *peperamenos pros areten* (incapable of virtuous activity)[8] or may be of stunted *(peratheisifs)* moral growth.[9] Bestial acts too may be due to arrested development *(perasis).*[10]

In Aristotle's biological works *peperamenon* and similar words are naturally found with a more literal meaning. For instance, if some of the legs of a centipede are cut away, the animal is now *peperamenon,*[11] and an animal born with an extra head or extra feet is said to be an *anapifria-to* be in mutilated state.[12]

These words are used not only of animal features that are true mutilations but also of features that are mutilations or defects only at first sight. For example, Aristotle writes of the seal:

> The seal is a sort of *peper6menon* quadruped. Its front feet are immediately behind its shoulder blades. They are similar to hands, and are like the feet of the bear, for each has five toes, and each toe has three flexions and a smallish nail. The hind feet also have five toes, and flexions and nails similar to those of the front feet, but in shape they are comparable to the tail of a fish.[13]

Certainly the seal moves awkwardly on land, and its flippers seem deformed if we compare them with the legs of other mammals, so

[8] Aristotle, *Nichomachean Ethics* 1. 9.1099b19 (hereafter NE).
[9] Aristotle, *Eudemian Ethics* 2.8.1224b30 (hereafter EE).
[10] NE 7.6.1149b30.
[11] Aristotle, *Progression of Animals* 8.708b10 (hereafter IA).
[12] GA 4.3.769b31.
[13] Aristotle, *Historia Animalium* 2.1.498a32 (hereafter HA).

Aristotle has grounds for saying that it is mutilated in a true sense. We today would see these features not as mutilations but as adaptations to marine life acquired over the countless years since the ancestral seal, a land animal, took to the sea. Aristotle knows nothing of evolution [14] and does not see these features as the adaptations that they are, though it is interesting that sees the seal as "playing a dual role" *(epamphoterizO)* and as being both a land animal and a sea animal. [15] (And, as has been seen, he notes too the resemblance of its hind legs to the tail of that eminently marine animal, the fish.)

But if he does not see the form of the limbs as being advantageous in the life of the seal, this is not true of another feature that also makes him say that the seal is *peper6menon:* the lack of (external) ears. Mammals-the context shows he is writing about mammals-commonly have such ears:

> The [live-bearing] quadrupeds have ears that stand out free from the head ... As they are usually standing on all fours when they move, it is useful for them to have their ears well up in the air, and also movable. [16]

The seal is different:

> One viviparous animal, the seal, has no ears but only auditory passages; but this is because, although it is a quadruped, it is *pep&6menon.* [17]

Now the head of the seal is of singular beauty, and we would see the absence of ears not as a mutilation, but as natural, and indeed as an adaptation to marine lik So does Aristotle, who says specifically that it is for a reason *(aitia).*

> Nature has brought off a clever *[eulog&]* piece of work in the seal which, although it is a viviparous quadruped, possesses no ears but only passages. The reason *[aitia]* for this is that it spends its **life** in a fluid medium. The ear is a part of the body which is an addition made to the passages in order to

[14] Though he knows of the belief that human beings and quadrupeds were generated from the earth; see GA 3.11.762b28.

[15] HA 6.12.566b27; *De Partibus Animalibus* 4.13.697b1 (hereafter PA).

[16] PA 2.11.657a12.

[17] PA 2.12.657a23.

safeguard the movement of the air which comes from a distance, and therefore it is of no use to the seal; indeed it would actually be a hindrance rather than a help, because it would act as a receptacle for a large volume of water. [18]

Thus land mammals can hear best by having ears well up in the air, but seals can hear best if they lack such ears. The seal lacks such ears because it is *pepih5menon,* but being *pepi!ramenon* is here an advantage and hence it is not, in a true sense, a mutilation or defect. So to be *peperamenon* does not always mean to be truly mutilated or truly defective.

It will be noted how Aristotle explains that it is Nature that has taken what is *peperamenon* and used it to good purpose. As will be seen, the principle that Nature can turn to the good what at first sight is defective is central in Aristotle's biology.

Aristotle's use of *peperamenon* may be better understood if we reflect on our use of the word "lack." Albino tigers lack the coloring that serves normal tigers as camouflage and helps them hunt their prey unobserved. The lack is a defect. But groups of fish isolated for centuries in lightless underground caves also lack coloring, which would be useless where there is no light. The lack is not here a defect. It is rather a saving of the protein needed to produce color pigments in the skin, protein that can now be put to better purposes. Similarly we might say that after a fight a dog lacks an ear. We might also say that the seal lacks the (external) ears that are typical of mammals. In the first instance, the lack is a true defect. In the second, it is not a defect but rather an adaptation to marine life. So too with the word *pepi!ramenon:* it may, or may not, assert a defect, and whether it does, or does not, assert a defect is something to be decided from the context.

The phrase *to thi1u hi5sper arren esti peperamenon* is well known. Another phrase of Aristotle is less heard of: *hupolambanein hi5speranaperian einai ten thi1uti!ta phusiken.* [19] Peck translates this as "we should look upon the female state as being as it were a deformity, though one that occurs in the ordinary course of nature," and William of Moerbeka as "oportet existimare feminitatem esse velut orbitatem natural em." It will be

[18] GA 5.2.781b23.

[19] GA 4.6.775a15. Cf. GA 4.3.767b7.

noted that Aristotle again uses the modifier *haper.* The female state is to be looked on as being as it were an *anapma.* One notes too the explicit reference to Nature. The *anapma* is one that occurs in the ordinary course of Nature.

Anapma, as has been said, basically means "a state of mutilation," but does it always have this meaning? Aristotle sometimes uses the word in its basic sense. As we have seen, he applies it to an animal born with extra feet or an extra head.[20] But if one turns from the elegant seal to the less prepossessing crocodile, one finds that he also uses the word of features that are not true defects.

Here however we must first look at his use of another word that also, at first sight, suggests that something is wrong: *anapalin,* which means "upside down." Aristotle knows that in animals having a head and jaws the upper jaw is typically a fixed part of the head and the lower jaw is jointed.[21] The gaping mouth of the crocodile makes him think, mistakenly, that here it is the upper jaw that is jointed.[22] This leads him to say that the jaws of the crocodile are *anapalin,*[23] presumably a mutilated state. Yet if they are upside down, this is for good reason:

> All [four-footed Ovipara] move the lower jaw, with one exception, the river crocodile, which moves the upper jaw. The reason *[aitia]* for this is that its feet are no use for seizing and holding things: they are altogether too small. So Nature has given it a mouth that it can use for these purposes instead of using its feet. When it comes to seizing things and holding them, the most useful direction for a blow is that which gives it the greatest strength. Now a blow from above is always stronger than a blow from below. To an animal that has no proper hands and no proper feet, which has to use its mouth for seizing its food as well as for biting it, the power to seize it is more necessary; and therefore it is more useful for it to move its upper jaw than its lower one. For the same reason crabs move the upper part of their claws and not the lower; claws are their substitute for hands, so the claws have to be useful for seizing things (not for cutting them up: this, and biting, is the business of the teeth). In crabs then and in other creatures that, because their mouth does not come into action under water, can take their time about seizing their food, the labor is divided: they seize the food with their hands or feet and cut it up with the

[20] GA 4.3.769b31.
[21] PA4.11.691b6.
[22] HA 1.11.492b24.
[23] PA 2.17.660b28.

mouth. For the crocodile, however, by making the jaws move as I have described, Nature has constructed a mouth that can be used for both these purposes.[24]

The upside-down arrangement of the jaws is not really a defect. It is the work of Nature, there is a reason for it, and it is an advantage to the animal. Again an apparent defect, produced by Nature, turns out to be for the better.

Aristotle now turns to the *anapifria* of the crocodile's tongue-it is tiny for so large an animal.

Among the factors that contribute to the *anaperia* of the crocodile's tongue is the immobility of its lower jaw, to which the tongue is normally joined We must remember, however, that the crocodile's jaws are upside down: the bottom one is on the top and the top one below .... The tongue is not fixed to the upper jaw (as one would expect it to be) because it would then be in the way of the food as it entered the mouth, but to the lower one, which is really the upper one in the wrong place.[25]

The *anapifria,* at first sight a mutilation, turns out to be a feature that enables the crocodile to eat its food more readily. As with *peperamenon* and *anapalin, anaperon* does not necessarily mean "to be defective."

To recapitulate: it is Nature that has made the seal to be *peperamenon* and Nature that has made the crocodile's mouth to be *anapalin-to* the advantage of these animals, and the better to adapt them to the purposes of their life. It will be seen later that it is Nature that makes the female to be *peperamenon* and to be an *anapifria.* The seeming defect turns out to be an adaptation that enables the female to "generate in itself," in contrast to the male, which "generates in another." To understand this, the phrases *to thi1u hii;per arren esti peperamenon* and *hupolam-banein hii;per anapifrian einai ten thi1utaa phusiken* must be set in their context, that of Aristotle's theory of generation. That theory must itself be set within Aristotle's general understanding of the natural world.

[24] PA 4.11.691b5.
[25] PA 2.17.660b26.

B) Aristotle's Picture of Nature

More than any other great philosopher, Aristotle is fascinated by living world. He writes enthusiastically:

Of the works of Nature there are, we hold, two kinds: those which are brought into being and perish, and those [the heavenly bodies] which are free from these processes throughout all ages. The latter are of the highest worth and are divine, but our opportunities for the study of them are somewhat scanty, since there is but little evidence available to our senses to enable us to consider them and all the things we long to know about them. We have better means of information however concerning the things that perish, that is to say, plants and animals, because we live among them; and anyone who will but take enough trouble can learn much concerning every one of their kinds. Each of the two groups has its attractiveness. For although our grasp of the eternal things is but slight, nevertheless the joy which it brings is, by reason of their excellence and worth, greater than that of knowing all things that are here below; just as the joy of a fleeting and partial glimpse of those whom we love is much greater than that of an accurate view of other things, no matter how numerous or how great they are. But inasmuch as it is possible for us to obtain more and better information about the things on earth, our knowledge of them has the advantage over the other; moreover, because they are nearer to us and closer to our nature, they are able to make up some of their leeway as against the philosophy that contemplates the things that are divine .... Of things divine we have treated elsewhere, so it now remains to speak of animals and their nature. So far as in us lies, we will not leave out any one of them, be it ever so mean; for though there are animals which have no attractiveness for the senses, yet for the eye of science, for the student who is naturally of a philosophic spirit and can discern the causes of things, Nature which fashioned them provides joys that cannot be measured. If we study mere likenesses of these things and take pleasure in so doing, because then we are contemplating the painter's or the carver's art which fashioned them, and yet fail to delight much more in studying the works of Nature themselves, though we have the ability to discern the actual causes-that would be a strange absurdity indeed. Wherefore we must not betake ourselves to the consideration of the meaner animals with bad grace, as though we were children, since in all natural things there is something of the marvelous. There is a story that tells how some visitors once wished to meet Heradeitus, and when they entered and saw him in the kitchen, warming himself at the stove, they hesitated; but Heracleitus said "Come don't be afraid; there are gods even here." In like manner, we ought not to hesitate nor be abashed, but boldly to enter upon our researches concerning animals of every sort and kind, knowing that in not one of them is Nature or Beauty lacking. [26]

[26] PA 1.5.644b23.

These words were not penned by someone who believes that the female half of the living world is defective.

C) Purpose and Necessity in Nature

The belief that Nature acts for a purpose and constantly seeks to achieve "that which is better" *(to beltion)* is at the heart of Aristotle's understanding of the natural world, and particularly of his understanding of the world of living things.[27] He sets down as a fundamental principle of his natural philosophy that in the works of Nature purpose and not accident is predominant *(malista).*[28] Nature does nothing that lacks purpose.[29] Nature does nothing that is superfluous.[30] Nature is a potter,[31] a painter,[32] a cook,[33] and a housekeeper.[34] And, as has been said, purpose and beauty are more fully present in the works of Nature than in the works of human hand.[35] In all her workmanship Nature acts in every particular as reason would expect.[36]

These, he claims, are not a priori principles:

> The assumption we make-and it is an assumption founded upon what we observe-is that Nature neither defaults nor does anything idly about the things that are possible in every case.[37]

One notes here the sharp difference between Aristotle's thinking and our own. We find purpose and intention only in the deeds of human beings. Aristotle finds it in the workings of the natural world.

Aristotle knows indeed that from time to time things in the world of Nature go wrong, and he explains this by speaking of

[27] On purpose in the world of inanimate objects, see *Physics* 2.8.199a3ff.
[28] PA 1.5.645a24.
[29] GA 2.6.744a36.
[30] GA 2.4.739b20.
[31] GA 2.6.743a20.
[32] GA 2.6.743b23.
[33] GA 2.6.743a32.
[34] GA 2.6.744b16.
[35] PA 1.1.639b20.
[36] GA 1.23.731a24.
[37] GA 5.8.788b20.

two forms of necessity. To achieve "that which is better" it is necessary that certain materials be used and certain processes be undertaken. He gives an example: a hatchet, in order to split wood, must of necessity be hard; if so, then it must, of necessity, be made of bronze or of iron. Similarly, if Nature is to produce a living body, it is necessary that appropriate materials be employed and that these be built into an appropriate structure. This, Aristotle says, is necessity *ex hupothese<5s8-what* must happen if Nature's purpose is to be achieved.

But he accepts that on occasion Nature is overwhelmed and that things happen that have no purpose. For example, some of the substances produced in digestion are surplus to what the body needs for nourishment, [39] and some of these can even cause harm. [40] On occasion deformed animals are born, and these too are contrary to Nature. [41] Here then is another sort of necessity: there are things that happen *ex anagkifs (anagkemeans* "force" or "constraint"). [42] One may extend Aristotle's example. If a hatchet is made of iron, it will rust and become useless. The rusting has no purpose, but it must happen, given the nature of iron, and so happens *ex anagkifs.*

Yet Aristotle is continually pointing out the adroitness of Nature (as Peck calls it) in employing the workings of this latter sort of necessity to serve her purpose and to achieve what is better. For example, digestion, as has been said, produces some substances that seem to have no particular use. [43] Yet Nature takes some of these and turns them into useful materials, such as marrow [44] or lard. [45] Peck gives no fewer than nine examples of this adroitness. [46] We have already seen this in the seal and the

[3]s PA 1.1.642a7ff. Cf. *Pbysica* 2.8.199b33.

[39] GA 1.18.725a5.

[40] GA 1.18.725a8.

[41] GA 4.4.772b13.

[42] GA 5.1.778a35.

[43] GA 1.18.725a5.

[44] PA 2.6.652a20.

[45] PA 2.5.651a20.

[46] Peck, GA, p. xliii. See GA 2.4.738a33; GA 2.4.739b28; GA 2.6.743a36; GA 3.4.755a22; GA 4.8.776a35; GA 4.8.776b33; PA 1.1.642a31; PA 3.2.663b10; PA 3.2.663b20. A tenth instance that might be added is the generation of the female animal.

crocodile: the one lacks ears, the other has jaws that are upside down and lacks a proper tongue. These are things that happen *ex anagkes,* yet Nature uses the working of this sort of Necessity to form a better seal, a better crocodile. It will be seen later that the female and male generative substances are also the outcome of this adroitness.

The belief that Nature can turn "to the better" what initially seems to have gone wrong is at the core of Aristotle's theory of the generation of animals. In particular, it is central to his account of the generation of the female animal.

Aristotle sees his account of animal generation as the climax of his study of the living world. [47] The *HistoriaAnimalium* describes the variety of animals and their modes of life. The *De Partibus Animalium* describes what we would call the details of their anatomy and physiology. His account of generation (i.e., reproduction or procreation) is given in a long and complex work, the *De Generatione Animalium.* This work begins and ends with a paragraph about *aitia,* a word that can mean "principle" or "cause" or "reason" or "explanation." "Causes," Peck writes, "are at the foundation of all his thought, especially of his theories about animal reproduction and development." [48]

Aristotle believes he has to give what he calls the four causes of generation, [49] or, in more modern language, to give an account of generation under four aspects. He has (1) to state the material from which the offspring is produced (viz., the female generative substance), and (2) the efficient cause (viz., the male generative substance). He also has to describe the development of the embryo until it is ready for birth, and (4) above all, he has to state the final cause or purpose or reason why generation takes place (viz., to maintain the species in existence). How he does all this we shall see as we continue.

[47] GA 1, 1, 715a1.

[48] Peck, GA, p. xxxviii.

[49] GA 1.1.715a3.

D) The Reason for (and Final Cause Generation

One must first look at Aristode's explanation of why generation takes place. Nature, as has been seen, always and in aH things strives for the better. Now being is better than not being. Hence it is better that things should exist rather than that nothing should exist, and it would be best that whatever exists should last forever. Such things are the heavenly bodies which are unchangeable. Nature however has filled our [sublunary] world with things that come into existence and fade away. Many of these are inanimate. But since soul *(psuche)* is better than body, and to have soul is better than not to have soul (and! hence living is better than not living), Nature particularly wishes that living things should exist[50] (indeed the things that have the fullest tide to be called substances are animals and plants).[51] Nature would wish that they should last for ever. But it is impossible for them to be numerically (that is, individuaHy) eternal, and so they generate themselves to ensure that the type continues to be, and animals and plants are eternal in the only way that is open to them.[52] It follows that generation is intended by the heavens *(aniJthen),5*[3] since it is because generation takes place that, in a sense, the seali and the crocodile last for ever-and so achieve, so far as is possible, what the heavens would wish. Accordingly, the purpose or final cause of generation is the continuation of the species. (But, as wHl be seen, generation is not the primary purpose of an animal's existence. That purpose is to exist, to live, and to know the world in which it lives.)

Now to achieve generation there must, in most species, both female and male members.[54] It follows that both the male *(to arren)* and the female *(to tht1u)* are intended by Nature.

[50] GA2.1.731b25.

[51] *Metaphysica* 7.7.1032a18.

[52] GA 2.1.731b34; *De Generatione et Corruptione* 2.10.336b27 (hereafter GC).

[53] GA 2.1.731b24.

[54] Aristotle knows of course that generation can sometimes be asexual. See GA 1.1.715a21; GA 1.20.729a27.

E) A Point of Language

Before going further, a word must be said about Aristotle's use of the terms *to thiJu* and *to a"en.* It is interesting, though not necessarily important, that Aristotle commonly, if not invariably, writes "female and male" rather than "male and female."[55] Some translations do not reflect this order and write "male and female."[56] In this article Aristotle's order is followed.

A difficult problem is the translation of *to thiJu* (the female) and *to a"en* (the male), where the noun and hence the article are neuter. They are sometimes used as substantives and mean "the female animal" and "the male animal," as when Aristotle remarks that in insects the female is commonly bigger than the male.[57] At other times they are abstract or qualitative nouns and mean the female factor or the male factor, as when he says that it is for the sake of generation that the female and the male are present in the animals that are female and male.[58] It can be difficult at times to know in which sense he is using the words. Peck comments that it is impossible to represent the force of the Greek neuter in English[59]-and one might say the same of Latin, which lacks the article, and of the Romance languages, which lack the neuter. The two meanings can however be well expressed in German, where one can distinguish between *das Weibchen* (the female animal) and *das Weibliche* (the female factor). One can similarly distinguish between *das Mannchen* and *das Mannliche.* The German translation of Aubert and Wimmer makes use of this distinction.[60] Here I am largely guided by these translators, the one a biologist, the other a classical scholar, and commonly write "the female animal" when they write *das Weibchen,* but "the female factor" or "the female substance" and so forth when they write *das Weibliche.* So too for *das Mannchen* and *das Mannliche.*

[55] E.g., GA 1.1.715a19; GA 2.1.732a2.

[56] E.g., Peck (passim), and Bussemaker throughout the Didot edition.

[57] GA 1.16.721a12.

[58] GA 2.1.732a2.

[59] Peck, GA, p. 10, note a.

[60] H. Aubert and F. Wimmer, *Aristoteles' funf Bucher von der Zeugung und Entwickelung der Tiere* (Leipzig, 1860).

F) Female and Male 'Factors in Generation

It is a basic conviction of Aristotle that generation requires two factors:

> There must be that which generates, and that out of which it generates; and even if these two [factors] be united in one [individual], at any rate they must differ in kind, and their *logos* is distinct. [61]

He writes further:

> By a male animal we mean one that generates in another, by a female animal, one that generates in itself. That is why, when speaking about the universe, people speak of the earth as something female and call it mother, while they give to the heaven and the sun and anything else of that kind the title of generator and father. [62]

Animals are female and male by reason of the female or male factor that is present in them. [63] When an animal is said to be a female or a male, this is not said regarding whole animal, only regarding a particular power and a particular part, a part that is evident to the senses. [64] Being an animal comes first, so to speak, and being a female or animal comes later. This implies that female and male of any animal species are fundamentally the same as each other. Indeed Aristotle sees the difference between female and male animals as contingent [65] rather than essential, and this no doubt because the female animal possesses same soul *(psuche)* as the male. [66]

Nevertheless there is a real difference between them:

[61] GA 1.20. 729a27. Peck writes that *logos* means "a rational utterance" or "a rational explanation," and that it can denote "the defining formula" of a thing, o:r "the definition of a thing's essence and of its essential being" (Peck, GA p. xliv).

[62] GA 1.2.716a15.

[63] GA 1.20.729a27.

[64] GA 1.2.716a32.

[65] GA 4.1.764b37. Peck comments *ad locum* tliat it happens *kata sumbebikos,* not *kat' auto,* and is an accidental, not an essential, characteristic; d. GA 4.1.766b2.

[66] GA 2.5.741a6.

Male and female animals differ in respect of their *logos*, in that the power or faculty possessed by the one differs from that possessed by the other. They also differ to bodily sense [i.e., are visibly different], in respect of certain physical parts. They differ in their *logos*, because the male factor is the power to generate in another, while the female factor is the power to generate in oneself, i.e., the female factor is that out of which the generated offspring, which is present in the generator, comes into being. Very well, then: they are distinguished concerning their faculty, and this entails a certain function. Now for the exercise of every function instruments are needed .... Hence it is necessary that, for the purpose of copulation and procreation, certain parts should exist, parts that are different from each other, in respect of which the female animal will differ from the male.[67]

He explains elsewhere that an animal is in the full sense female or male only when it acquires these parts.[68]

Manifestly, the female factor must be expressed in the body in a way that enables the female animal to generate in itself, the male factor in such a way that it enables the male animal to generate in another. *Inter alia* this means that Nature gives a womb to the female animal and the *perineos* (the part between the thighs and the buttocks) to the male.[69]

G) Generation Is Not the Primary Purpose of Animal Life

It is for the sake of generation that the female factor and the male factor are present in the animals that are female and male.[70] This does not mean that animals exist principally for the sake of generation. The process takes place to perpetuate the type, but the type exists for its own sake, its own being. Indeed animals have higher things to do than generate offspring:

A plant, in its essence, has no function or activity to perform other than the formation of its seed; and since this is formed as a result of the union of the female factor with the male factor, Nature has mixed the two and placed them together, so that in plants the female and male factors are not separate .... All animals however have some measure of knowledge of a sort (some have more,

[67] GA 1.2.716a18.
[68] GA 4.1.766b7.
[69] GA 4.1.766a7.
[70] GA 2.1.732a2.

some less, some very little indeed), because they have sense-perception, and sense-perception is of course a sort of knowledge. The value we attach to this knowledge varies greatly according as we judge it by the standard of human intelligence or the class of lifeless objects. Compared with the intelligence possessed by human beings, it seems as nothing to possess the two senses of touch and taste only; but compared with an entire absence of sensibility, it seems a very fine thing indeed. We should much prefer to have even this sort of knowledge to a state of death and non-existence. Now it is by sense-perception that animals differ from the creatures which are merely alive; since however, if it be an animal, its attributes must of necessity include that of being alive, when the time comes for it to accomplish the function proper to that which is alive [to generate], then it copulates and becomes as it were just a plant. [71]

Animals accordingly exist for a higher purpose than generating, namely, the purpose of knowing and experiencing the world in which they live. So it is precisely because generating is not the main purpose of animal life that in most species the female and male factors are found in separate individuals. It will be noted that Aristotle makes no distinction here between female and male animals. Both have sensory capacities and both can move independently to explore their world, coming together from time to time to generate. [72] Both female and male animals exist primarily to know the world in which they live. For both generating is something secondary.

H) Differences between Female and Male Generative Substances

The female and male generative substances-the immediate sources of generation-are among the parts of the bodies that must be different.Yet as with other differences between male and female bodies, these are really variations of a basic identity, and the generative substances are very similar. Indeed Aristotle on occasion calls them both semen *(sperma),*[73] though he usually reserves the word for the male semen.

[71] GA 1.23.731a24.

[72] GA2.1. 732a10.

[73] GA 1.2.716a8; GA 1.20.728b22; GA 4.5.774a5.

Both are prepared from the same material in the same way. The process is one of "ripening, digesting, changing by the action of heat" *(pessO).* In a first stage food is changed by the action of heat and distributed by the blood to meet the needs of the body. There is usually a residue *(peritt6ma)* after provision has been made for these needs. Part of this residue is useless, harmful even, and is excreted. [74] But part is useful and is changed by the action of heat into such substances as milk [75] or bile [76] or, most important of all, the female and male generative substances. [77] These processes all need heat. This heat however is not the natural heat (warmth) found in all parts of the body. It is rather soul heat or vital heat which the heart adds to the blood, and which is then found in varying degree in some other parts of the body. [78] It corresponds in many ways to what we would call energy.

The male generative substance is the semen, the female generative substance is the purest portion of the blood contained in the womb *(kathar6taton tou peritt6matos).* [79] To each generative substance Nature assigns a part fitted to receive it [80] and indeed the substance is fully potent only when it reaches this part. [81] The female generative substance is greater in volume. On this account the part in which the female generative substance is held is fairly wide, and is, as has been said, the womb *(hustera),* [82] a word which for Aristotle signifies the ovarian ducts as well. [83] The male generative substance is lower in volume and is held in a passage [84] -what we call the urethra. (Aristotle does not know that the

[74] PA 2.2.647b28.

[75] GA 4.8.776a15.

[76] PA 4.2.677a25.

[77] GA1.18.725a11.

[78] GA 4.1.765b15; GA 5.4.784b26; PA 2.3.650a5.

[79] GA 2.4.739a8.

[80] GA 4.1.766b20.

[81] GA 2.4.739a3.

[82] GA 2.4.739a1.

[83] Aubert and Wimmer, *Aristoteles' funf Bucher von der Zeugung und Entwickelung der Tiere,* viii.

[84] GA 2.4.739a2; GA 4.1.766b22.

semen is held principally in the testicles.)[85] This male substance is so highly condensed that it has lost all resemblance to blood. The male contribution is not so much the ejaculate as a portion of soul principle that lies within it and of which it is the vehicle.[86]

Since the male generative substance is lower in volume than that of the female, Aristotle concludes that it is more concentrated *(sunestos).*[87] The work of concentration requires heat,[88] so Aristotle concludes that the male animal has more heat than the female.

Aristotle sees this greater or lesser ability to condense the generative substance as an ability *(dunamis)* and an inability *(adunamia):*

> The male factor and the female factor are distinguished by an ability and an inability. The factor that is able to refine and collect together and secrete the semen that contains the principle of form is the male factor .... The factor that receives the semen, but is unable to fashion or secrete it, is the female factor. Now all refining works by heat .... It follows of necessity that male animals have more heat than female animals.[89]

He explains however that he is using the words *dunamis* and *adunamia* in more senses than one.[90] Peck interprets "able" as meaning "can do it better" and "unable" as meaning "can do it less well."[91]

The difference in the amount or degree of heat in female and male animals is the fundamental difference between them, and all other differences flow from this. It is because it has more heat that the male animal produces more concentrated generative substance, and because it has less heat that the female animal produces less concentrated substance. It is because it produces concentrated substance of lesser volume that Nature assigns narrow passages to the male animal in which to hold this

GA 4.1.765a30: "These parts of animals contribute nothing at all to generation so far as producing female and male offspring is concerned."

[86] GA 2.3.737a8.

[87] GA 4.1.765b4.

[88] GA 4.1.765b15.

[89] GA 4.1.765b10.

[90] GA 4.1.766a2.

[91] Peck, GA, p. 388 note a.

substance. It is because it produces less concentrated substance of greater volume that Nature assigns an ample womb to the female animal. Manifestly, by having semen, and the cor-responding organ, the male animal is able to generate in another; by having a womb and pure blood within it, the female animal is able to generate in itself.

The ultimate source of the difference between female and male animals lies in the principle *(arch§J,* that is, the part of the body that is the source of heat. In blooded animals this is the heart, in other animals its counterpart. [92] The heart is the first part of the embryo to be formed, and the other parts of the body, including the sexual parts, are formed from the blood coming from the heart. [93]

It may be worth repeating that the heat in question here is not the natural heat (i.e., warmth) found in all members of the body. [94] Aristotle is not saying that the male body is warmer than the female body. The heat is rather soul heat or vital heat, which the heart adds to the blood and which is then found in varying degree in other parts of the body. [95] It is a *dunamis* or power which is found in greater degree in the male than in the female repro-ductive substance. As was said before, it seems to correspond to what modern science calls energy.

In saying that the male animal possesses more heat, Aristotle is not simply repeating a "standard" Greek view deriving from the belief that the female animal is somehow inferior. He explicitly says that other writers of his time take the opposite view. These hold that the abundance of blood (the menstrual flow) in the female animal shows that it has more heat than the male. Aristotle in contrast maintains that this very abundance of blood points to a colder state, and he argues at some length for this inter-pretation.96 In particular he contends that the greater con-centration of the male sperm proves the presence of greater heat

[92] GA 4.1.766b2.
[93] GA 4.1.766b1.
[94] GA 5.4.784b26.
[95] GA 2.4.739a12.
[96] GA 4.1.765b20.

in the male animal.[97] His arguments on this point are empirical, not a priori.

I) The Process of Generation

Both the female and male generative substances possess soul, the principle of life, at least potentially. The semen possesses the principle of sentient life (i.e., the power to sense), the female generative substance possesses the principle of nutritive life (i.e., the power to grow).[98] Aristotle explains this most clearly when he is writing of "wind eggs" *(hupanenios)-soft-shelled* imperfect eggs occasionally produced by birds:

> Wind eggs attain to generation in so far as it is possible for them to do so. It is impossible for them to be perfected to the point of producing an animal, because sense perception is required for that; the nutritive faculty of the Soul, however, is possessed by the female generative substance as well as by the male.[99]

An egg is in a way a living thing and has nutritive life of a sort. It can, after all, "go bad." But it will not develop into a living chick, capable of sentient activity, unless it is fertilized. It follows that it does not have sentient life, even potentially.

The principle of sentient life is rather in the male semen.[100] But while the male generative substance may possess this principle, the male animal cannot of itself produce offspring, because all the body of the offspring comes from the female.[101] In sexual union the female generative substance, which already has the principle of nutritive life, comes to have the principle of sentient life, and the process of embryonic growth then begins.[102]

The coming together of the generative substances is effected in different ways in different species. In the case of many insects the

[97] GA 4.1.765b19.
[98] GA 2.3.736b1.
[99] GA 3.7.757b15.
[100] GA 2.5.741b6.
[101] GA 2.4.738b20.
[102] GA 2.3.737a34; GA 2.5.741a30.

female animal inserts an organ into the male.[103] Among other animals the semen is received within the female womb,[104] as in the case of mammals, or is sprinkled upon the eggs released by the female, as in the case of fish.[105]

In Aristotle's view, the semen acts upon, but is not joined with, or united with, the female generative substance. Hence the offspring is not formed out of the male generative substance.[106] He compares the action of the semen with that of rennet or fig juice on milk.[107] As Needham says in his *History of Embryology*,[108] Aristotle sees the semen as a catalyst that precipitates action but does not itself become part of the resulting product. The semen, Aristotle thinks, disappears into thin air:

> The physical part of the semen ... dissolves and evaporates; on this account we should not always be trying ... to find it as an ingredient of the fetation [the embryo] when that has set and taken shape, any more than we should expect to trace the fig juice which sets and curdles milk.[109]

Thus the mother is the sole source of the offspring's body, even of a male offspring's body, for the female generative substance contains all the parts of the body potentially, including (Aristotle states this explicitly) those parts that distinguish the two sexes.[110]

Since the female generative substance contains all the parts of the body potentially, Aristotle asks why the female animal has need of the male and why it does not accomplish generation by itself.[111] He knows of a species of fish *(eruthrinus)*[112] of which no male member has been observed, whereas many females have been seen full of embryos, and he suspects that in this species the female animal generates on its own. But in species in which there

[103] GA 1.16.721a14. Cf. GA 1.18.723b20.

[104] GA 2.4.739a1.

[105] GA 1.21.730a20.

[106] GA 1.21.729b19; GA 2.3.737a15.

[107] GA 1.20.729a15.

[108] J. Needham, *A History of Embryology* (2d ed.; Cambridge, 1959), 51.

[109] GA 2.3.737a15.

[110] GA 2.3.737a23.

[111] GA 2.5.741a8.

[112] GA 2.5.741a35; according to Peck, this is a type of sea perch of which many are hermaphrodites.

are males aut:ogeneration does not occuro He states this as an observed fact, goes on to give a typically Aristotelian reason for the fact:

If [the female animal could generate on its own] the existence of the male animal would have no purpose, and Nature does nothing that lacks purpose. [113]

The statement is important, for it amounts to the explicit assertion that: the male animal exists for generating no less than does the female, though, as has been seen, neither female nor male animal exists principally for this purpose.

]) The Female Animal Is Not Passive

Aristotle holds generation requires two factors:

There must be that which generates, and that out of which it generates; and even if these two be united in one [individual], at any rate they must differ in kind, and the *logos* of each of them must be distinct. In those animals in which the two capacities [to generate in oneself, to generate in another] are separate, the body-that is to say the physical nature-of the active and the passive individuals must be different. Since the male factor is "that which moves and acts" and the female factor, *qua* female, is "that which is acted upon," what the female animal adds to the semen of the male will not be semen but material. [114]

Furthermore:

Now of course the female factor *qua* female factor is passive and the male factor *qua* male factor is active-it is that whence the principle of movement comes. [115]

This is sometimes understood as though Aristotle were saying that the male animal is active and the female animal passive. This is not so. He specifically states that he is writing about the female and male factors *qua* factors-in the concrete, about the semen and the female generative substance. We have seen that the semen

[113] GA 2.5.741b4.

[114] GA 1.20.729a27. I follow here Aubert and Wimmerrather than Peck, who speaks of the female partner and the male partner.

[115] GA 1.21.729b15.

triggers the female generative substance into action. In this sense the semen is active and the female generative substance passive.[116] But this is not the same as saying that the male animal is active and the female animal passive.

This is clear too from Aristotle's saying that the active and the passive factors may both be in the same individual, as in plants[117] and indeed in some animals.[118] There can be no question here of active and passive individuals, for there is only one individual. Again, as has been seen, he describes sexual unions in which neither partner acts on the other. In many fish, when the female has laid her eggs, the male sprinkles his milt over them.[119] In so far as there is interaction here, it is the female animal that takes the initiative: her laying the eggs leads the male to excrete milt. There are species too where the female animal rather than the male is behaviorally active:

> Perhaps not in all insects, but certainly in most, during copulation the female animal extends a part of itself into the male .... the female animals can be seen inserting something into the males upwards from below.[120]

Moreover, as will be seen later, the male element in generation may be mastered during its interaction *(krateiJ;* with the female element. One may add that at no point in his account of generation does he refer to a dominance of one partner over the other.

When one moves from the female factor to the female animal, one finds that, once the moment of interaction between the two reproductive substances has passed, the female animal becomes highly active:

> As the parts of the animal to be formed are present potentially in the [female] substance, once the principle of movement has been supplied, one thing follows

[116] GA 1.21.729b10; GA 2.4.740b22.
[117] GA 1.23.731a25.
[118] GA 1.1.715a23.
[119] GA 1.21.730a18.
[120] GA 1.18.723b20.

on after another without interruption, just as it does m automatic mechanisms. [121]

Aristotle describes at length how the embryo derives nourishment and growth from its mother. [122] It will be recalled that an the body of the offspring comes from alone. If there is anything especially curious about Aristotle's theory, it is his belief that the male parent contributes nothing to the body of the offspring and that the female parent contributes everything. An Aristotelian father, it would seem, cannottake his child into his arms and say "This is bone of my bone, and flesh of my flesh."

Aristotle's use of the concepts "active" and "passive" is reflected in modem biology texts. One reads in such texts that plants "the pollen tube penetrates the stigma, style, and ovarian tissues on its journey to an ovule," and that in animals "the sperm moves into the oviduct," that it "reaches the secondary oocyte," and that "it penetrates the zona peUucida," [123] These phrases present the male element as active and. the female element as passive. Yet they surely do not imply that male animal is active and that the female animal is passive. The modern physiologist does not wish to anticipate what is a matter for the student of animal behavior. Nor does Aristotle.

K) The Female Does Not Supply Mere Matter

One needs also to examine carefully what Aristotle means when he says that the female supplies matter out of which the offspring develops. This must not be taken as though the female generative substance is a raw inert matter, such as day. Matter Aristotle is a relative term, [124] and what is matter in one relationship is structure and form in another. Thus his account of the composition of the parts of the body such basic materials as "the solid" and "'the hot" are the material from which bone and flesh are composed, but bone and flesh in their turn are

[121] GA 2.5.741b5.

[122] GA 2.6-8.741b25-749a7.

[123] C. Starr and R. Taggart, *Biology* (4th ed.; Belmont, CA: Wadsworith, 1987), 74 md 499.

[124] Peck, GA, p. xii.

the material from which the face and the hand are composed. [125] In generation the material supplied by the female animal has been formed from its blood-already something complex-by a further process of concentration. There is nothing primitive or elemental about it. Indeed, as has been said, it contains all the parts of the body potentially. [126]

L) Differences of Sex and of Other Features

Offspring resemble their parents in differing measure. There are differences in sex, and there are differences in other features. Offspring necessarily differ from one of their parents in their sex. In this respect a daughter is unlike her father, a son unlike his mother. This is a difference in kind or, as it were, a difference between opposites (we commonly speak of "the opposite sex," as indeed doesAristotle). [127] Other differences, such as differences in appearance, are a matter of degree. Aristotle believes he has to explain both types of difference. He has to explain, that is:

> (1) Why female and male animals are formed; (2) why female offspring often resemble the father and male offspring the mother; (3) why offspring resemble their ancestors [rather than their parents]; and (4) why sometimes the offspring is a human being yet bears no resemblance to any ancestor; (5) why sometimes [the difference] has reached such a point that in the end [the offspring] no longer has the appearance of a human being but only that of an animal and belongs to the class of congenital anomalies *(terata),* as they are called. [128]

We may first look at differences in appearance. Aristotle explains these as due to "falling back" *(lu0).* [129] He explains this as follows:

[125] PA 2.1.646a23.

[126] GA 2.5.741b10.

[127] GA 4.1.766b18.

[128] GA 4.3.769b10. Until recently malformed births were called "monsters"; they are now called "congenital anomalies." See M. V. Barrow, *A Brief History of Teratology to the Early 20th Century,* in *Teratology,* 4, 119 130.

[129] The word commonly means "loosening," but it is difficult to translate it in the sense in which Aristotle uses it. Peck gives "relapsing" and Pierre Louis *(Aristote: De la Generation des Animaux* [Paris, 1961]) "relachement." Here it is translated, in the etymological sense of "relapsing" and "relachement," as "falling back," or "falling back to."

That which acts is in its turn acted upon by that on which it acts. For example, a thing that cuts is blunted by the thing which is cut, and a thing which heats is cooled by the thing which is heated, and, generally, any motive agent ... is itself moved in return .... Sometimes the extent to which it is acted upon is greater than that to which it is acting: a thing that heats may be cooled, or one that cools may be heated. [130]

He goes on to say:

When a power operative in generation falls back, it changes over to something quite near it. For example, if the power of the male parent falls back, it shifts over *(metabain6)* into that of his father-a very small difference-and in the second instance to that of his grandfather. And in this way, not only on the male side but also on the female, the power of the female parent shifts over to that of her mother, and if not, then to that of her grandmother; and so on with the more remote ancestors. [131]

It follows that either the female or the male element may have the greater influence on any occasion, and that sons may be born who resemble their mother and daughters who resemble their father. [132] It is clear that Aristotle does not think that the male alone is active in producing the appearance of what is born, for the female element can produce a resemblance to the mother in her offspring, whether these are female or male. Indeed he thinks that when the male and female parents are of different species, as when a horse is mated with a donkey, it is commonly the female factor that has the greater influence, for then

so far as size, appearance and vigour are concerned, the offspring tends to resemble its dam rather than its sire. [133]

This is, presumably, the reason why people breed mules rather than hinnies.

Of greater importance are the reasons for, or causes of, the generation of animals of different sex. Aristotle writes:

[130] GA 4.3.768b16.
[131] GA 4.3.768a16.
[132] GA 4.3.768a32.
[133] HA 6.23.577b10.

As for the reason why one [offspring] comes to be formed, and is, female and another male, (a) in so far as this comes from necessity, that is from the proximate motive cause, and from what sort of material, our argument as it proceeds must endeavor to explain; (b) in so far as this occurs for the sake of "what is better," that is, for the sake of the Final Cause [the Cause "for the sake of which"], the principle *[aitia]* is derived from the heavens. [134]

The critical assertion here is that the reason, the final cause, why female and male animals come to be formed is that this is "for the better" and derives from "the heavens" *(aniJthen).* As has been said above, the heavens seek to bring about that living things should endure eternally, and since individual living things die the heavens seek through generation that the type or species should endure. To achieve generation there must be (in the animal world) both female and male animals. [135] It follows for Aristotle that the existence of both female and male animals-and therefore of women and men-is sought by the heavens. There is nothing in anything he writes to suggest that the male animal, but not the female, is so sought.

The heavens may be the ultimate reason why female and male animals are born, but Aristotle wishes to give more proximate reasons. The process of generation involves action by the male substance on the female substance. We have just seen that that which acts is acted on in return. This happens in all cases, but a special mode of interaction takes place if the elements are contraries, as he writes in *De Generatione et Corruptione:*

Unless both things are opposites or are made up of opposites, one cannot displace *[existemi]* the other from its natural condition. Only such things as possess contrariety or are themselves natural opposites -and not any chance things-are naturally adapted to be acted upon and to act. The agent and patient must be generically alike and identical, but specifically unlike and opposites .... Opposites are always within the same kind, and it is opposites which act and are acted upon reciprocally. Hence that which acts and that which is the object of the action are necessarily in one sense the same. But in another sense they are not the same and are unlike one another. Since that which acts and that which undergoes the action are generically alike but specifically different, and since it is contraries which are so related, it is clear

[134] GA 2.1.731b20.

[135] GA 4.3.767b10.

that opposites and their intermediates are capable of being affected and of acting reciprocally-indeed it is entirely these processes which constitute passing away *[phthora]* and coming-to-be *lgenesis].13*

These conditions for a special mode of interaction are fulfilled in generation, for they are met by the male and female reproductive elements. Both can be called semen. [137] Both are produced by the process of digesting the residues of food. [138] They are fundamentally same, yet they are also opposites. [139] While the male and female generative substances act on each other as has been seen, Aristotle sees the more condensed [140] male substance as having more heat and hence as being more active than the female substance. The male substance possesses principle the faculty or power to act on the female substance in such a way as to produce male offspring. [141]

Aristotle now introduces the concept of "mastering" *(krateO).* It is central in his account of the generation of females and males, occurring no fewer that twenty-two times in three chapters. In this process of generation the male semen can either master or be mastered. [142] If it gains mastery, male offspring is produced. But if it does not, if it is mastered, then female offspring is formed.

It may by now be clearer why and by what cause one offspring becomes male and another female. It is this. When the principle [the male factor] fails to gain the mastery ... and does not succeed in reducing the material [the female factor] into its own form *[eidos],* but instead is worsted in the attempt, then of necessity the material must change over to its opposite condition. Now the opposite of the male is the female, and it is opposite in that whereby one is male and the other female. [143]

[136] GC 1.7.323b28.

[137] GA 1.20.728b22.

[138] GA 4.1.766al3.

[139] GA 4.1.766a22.

[140] GA 4.1.765b5.

[141] GA 4.3.767b22.

[142] GA 4.3.768a22: "Malista men 01111. pepl:mken he arren kai he pater hama kratein kai krateisthai."

[143] GA 4.1.766a17.

Again:

If [the male semen] prevails, it brings [the material] over to itself; but if it is mastered, it changes over either into its opposite or else into extinction. Now the opposite of the male is the female. [144]

Since females and males are born in roughly equal numbers, it would seem that the male semen can be mastered as often as it masters.

Aristotle has another word to describe what happens when the male factor fails to gain the mastery. There is a total change *(existifmi;* Peck translates this as "to depart from type"). [145] When this occurs, the embryo acquires a characteristic (being female) opposite to that of the semen (which is male). Aristotle says:

Everything, when it departs from type, does not become any casual thing but becomes its opposite Applying this to the process of generation, the [female] substance that is not mastered must necessarily depart from type [*existani]* and become the opposite of the motive agent in that capacity wherein the generative and motive agent has failed to gain the mastery. Hence, if this is the capacity in virtue of which the agent is male, then the offspring formed is female. [146]

One asks why the male factor may not gain the mastery. Aristotle's reply is that one way or another there has been a lack of heat. He has already said that the female animal has less heat than the male. It is natural for him to go on to say that a female is the outcome when less heat is available to the generative process. This can happen in different ways. The male factor may itself lack heat [147] or power, [148] something that tends to happen when the male is very young or very old. [149] It may be that the

[144] GA 4.1.766b15.
[145] GA 4.3.768a15; GA 4.3.768b8.
i.u GA 4.3.768a7.
[147] GA 4.2.766b30.
[148] GA 4.3.768b25.
[149] GA 4.2.766b30.

body of one or both parents is very fluid,[150] or the female factor may be bulky and cold.[151]

These are internal causes. In addition, the lack of heat may be caused by the environment. The bodies of animals are more fluid when the wind is from the South:

> Shepherds say that it makes a difference so far as the generation of females and males is concerned, not only whether copulation occurs when the wind is in the north or south, but also whether the animals face north or south when they are copulating: such a small thing thrown in on one side or the other (so they say) acts as the cause of heat and cold, and these in turn act as the cause of generation.[152]

This is a remark that today produces much derision. Yet an elementary knowledge of biology shows that environmental and nongenetic factors play a part in sex determination. For instance, the temperature at which the eggs are incubated affects sex determination in the Mississippi alligator,[153] and there are similar effects in other species.[154]

In all such cases the male semen may fail to gain the mastery. The result is not that something casual-some indefinite creature halfway between a female and a male-is produced, but that the contrary of the male, a female, is produced, something, we have seen, that has a *logos* or meaning just as a male has.

L) The Female as hasper pepih5menon

Granted that this is how female and male animals are formed, and that the female animal is formed because of a lack of heat, one may ask in what sense a female animal is *peperi5m.enon.*

[150] GA 4.2.766b35.

[151] GA 4.3.768b30.

[152] GA 4.2.767a10.

[153] M. W. J. Ferguson and T. Joanen, "Temperature-Dependent Sex-Determination in *Alligator Mississippiensis," Journal of Zoology* 200 (London 1983): 143-77.

[154] See S. T. H. Chan and Wai Sum, "Environmental and Non-Genetic Mechanisms in Sex Determination," in C. R. Austin and R. G. Edwards, *Mechanisms of Sex Differentiation in Animals and Men* (New York, Academic Press, 1981).

Peperiimenon, it has been seen, is one of a series of words that includes *periima, peri5sis,* and *anaperia.* Liddell and Scott remark that *ptrama* (an imperfect animal) is opposed to *teleion* (having reached its end, finished, completed) and hence an animal without blemish.

As has been said, Aristotle writes that the female animal is formed:

> When the principle [the male factor] fails to gain the mastery ... and does not succeed in reducing the material [the female factor] into its own form *[eidos].*[155]

The male factor has failed to achieve its end, its *telos,* and the outcome (the female animal) is *peptriimenon.* Its state should, we recall, be looked on as an *anaperia.* This *anap&ia* lies in the lack of the full measure of heat found in the male, and the resulting inability to bring the generative substance to the same degree of concentration.

But we have noted that a lack may be produced by Nature, and for a purpose. It is Nature that has caused the lack of ears in the seal-so that the seal may hear better underwater. It is Nature that has given the crocodile jaws are upside down and a tiny tongue, but all this enables it to catch its prey more effectively. So too with the incapacity of the female animal to concentrate fully the reproductive substance:

> The formation of the [generative substance] by females is, on the one hand, the result of necessity *[ex anagkt'S],* and the reasons have been given: the female system cannot effect [full] condensation, and therefore, of necessity ... when there is a full complement of the substance in the fine blood-vessels, it must overflow [and so would be wasted]. On the other hand, in order to serve the better purpose and for the End *[heneka tau beltionos kai tou telous],* Nature diverts it to this place [the uterus] and employs it there for the sake of generation, in order that it may become another creature of the kind it would have become, since even as it is, it is potentially the same in character as the body whose secretion it is.[156]

[155] GA 4.l.766a21.

[156] GA 2.4.738a35.

So too with the female animal itself. The process of its generation contains imperfections and the purpose of the male semen is not achieved. The outcome may therefore be seen as an *anaperia.* But the *anaperia* is part of the ordinary course of Nature [157] and it happens for a purpose of Nature: that the race of creatures that are separated into female and male should endure. [158] Ultimately, that purpose derives from "the heavens."

The female animal is not truly *peper6menon* for it is what the heavens want. It is *h6sper peper6menon,* in the limited sense that it lacks the heat typical of the male animal-but it is not itself a male animal, so why should it have the features of such an animal? It is *peper6menon* in the sense in which the seal is said to be *peper6menon* because it lacks ears-yet having ears would reduce the acuity of its hearing. It is *anaperon* as the crocodile is *anaperon* in having a small tongue-yet having a normal tongue would impede its eating its food. So too the female animal is *peper6menon* because it lacks the heat typical of the male, but because it is *peper6menon* it has less concentrated reproductive material, and a womb in which to hold it. What seems to be a defect is precisely what enables it to bear children.

The female animal accordingly happens *ex anagki%.* Yet we have seen that Nature can take such things and turn them to her end and to achieve what is better. Many examples of this have been cited; the formation of the female is but a further instance.

One may need to recall the dominance of purpose in Aristotle's thought. The process of production is for the sake of the outcome, and the process is properly understood only when the outcome is understood. At first sight one may feel that if a process of production is imperfect, the outcome must be imperfect. Aristotle in contrast holds that if the outcome of a process meets the purposes of Nature, then this outcome is not defective.

Some examples from everyday life may help us understand his thinking. If we leave bread too long in the bin, it is attacked by a mold and becomes inedible. But if a cheese-maker wishes to make

[157] GA 4.6.775a15.
[158] GA 4.3.767b10.

blue cheese he introduces a mold that attacks the pure cheese and breaks it down. The moldy bread and the moldy cheese are both defective in one sense, yet in the full sense only the bread is defective. The cheese, by contrast, has acquired the flavor that is desired by the maker and that meets his intentions. Similarly a wine-maker allows a yeast to invade the grape juice and break down the sugar it contains, turning it into alcohol. Wine is, in a sense, corrupted grape juice, and yet we do not think of it as something defective. The cheese and the wine meet the purposes of the makers. Who, presented with a carved-out Stilton cheese flushed with port, would complain of being offered defective food? For Aristotle the process by which the female animal is produced is not truly defective because the outcome of the process, the female animal, meets the purpose of Nature, and, to repeat:

> Purpose and Beauty are more fully present in the works of Nature than in the works of the human hand. [159]

The matter can be put in Aristotle's technical language. In the generation of the female the efficient or motive cause (the male semen) may be defective, or the material cause (the female generative substance) may be unsuitable for the production of male offspring. But it does not follow that the final cause, the female animal, is defective in any true sense, for the process is what is needed to meet Nature's purpose. The female animal is *as it were peperiimenon.* The seal's lack of ears would be a defect if it were a land animal-which it isn't. The female animal's lack of heat would be a defect if it were a male-which it isn't. Because the seal lacks ears, it hears better under water. Because the female animal lacks heat, it produces generative substance of a larger volume, and because it produces that larger volume it has a womb, and because it has a womb it can generate in itself. The lack of heat, far from being a true defect, is precisely what an animal needs to be female.

One recalls Peck's remark that Aristotle is continually pointing out the adroitness of Nature in employing the results of what

[159] PA 1.1.639b20.

happens *ex anagkes* to serve her purpose, to achieve her end,[160] The female animal is the supreme example of this.[161]

There is indeed this difference, that the lack of ears the seal and lack of a normal tongue in the crocodile work for the purposes of the individual animal, whereas the lack of heat the female animal works for the wider purposes of Nature, But for Aristotle the lack of heat in the female and fullness of heat in the male-the sexual factors, that is-are both present not for the sake of the animal but for the sake of Nature's purpose of generation. There is no hint in Aristotle-or indeed in modern biology-that the female animal exists for the sake of generation and that the male does not. To repeat:

It is for the sake of generation that the female factor and the male factor are present in the animals that are female and male,[162]

It may be useful to recall, yet again, that Aristotle does not believe that animals exist primarily for the sake of generation, Their main activity, whether they are female or male, Hes in knowing the world through their sensory capacities, It is only from time to time that they come together and copulate.[163] For the most part, they have more important things to do. Aristotle

[160] Peck, GA, p. xliii.

[161] There is a passage *atMetaphysica* 7.9.1034b5 which Tredennick in the Loeb edition translates as "It is the same with natural formations as it is with the products of art. For the seed produces just as do those things which function by art. It contains the form potentially, and that from which the seed comes has in some sense the same name as the product (for we must not expect that all should have the same name in the sense that 'man' *[anthripos]* is produced by 'man' *[anthrq:>os]*-since woman *!gunej* is also produced by man *[andros]);* unless the product is a freak *[perama]."* Ross in the Oxford edition amends the text and gives: "Things which are formed by nature are in the same case as [these] prodncts of art; for it has the form potentially, and that from which the seed comes has in a sense the same name as the offspring; only in a sense, for we must not expect all cases to have exactly the same name, as in the production of 'human being' (for a 'woman' can be produced by a 'man' -and so it is not from a mule that a mule is produced; we must expect this only if the offspring is not an imperfect form." The meaning in the first version is difficult to determine. It does however seem to distinguish between *gune* and *periima.* The second version implies that woman is a *perO-ma,* but a natural *periima.* This is the same as saying she is a natural *anaperia,* the meaning of which has already been seen.

[162] GA 2.1.732a4.

[163] GA 1.23.731b7.

differs *toto caelo* from modern writers who say that the true purpose of an animal is to transmit its genes.

M) The Question of Earlier Ensoulment

It is sometimes said that Aristotle holds that the male human embryo is ensouled-that is, becomes a rational and therefore human reality-earlier than the female human embryo. He does not say this. He thinks that in living things there are different faculties (we might almost say "types") of soul. These can be arranged in a definite order, so that possession of any one of them implies possession of all those which precede it in the list. The main faculties are: (1) the nutritive soul (the power to grow, the power to reproduce), found in all plants; (2) the sentient soul (the power of sense perception), found in all animals; (3) the rational soul (the power of reason)-found only in human beings.

Writing of animals generally (including human beings), he holds that the female reproductive substance has nutritive soul, at least potentially, and the male substance has sentient soul, again potentially. When these substances come together, the growth of the embryonic animal begins.[164] He makes no distinction between the moment when a female embryo receives sentient soul and the moment when a male does.

He goes on however to consider the matter of rational soul (which, one recalls, is found only in human beings) and writes:

> It is a very great puzzle to answer another question, concerning Reason. At what moment, and in what manner, do those creatures that have the principle of Reason acquire their share in it, and from where does it come? This is a very difficult problem that we must endeavor to solve, so far as it may be solved, to the best of our power.[165]

And:

> It remains that Reason alone enters as an additional factor, and that it alone is divine, because physical activity has nothing whatever to do with the activity of Reason.[166]

[164] GA 2.3.737a34; GA 2.5.741a26.

[165] GA 2.3.736b5.

[166] GA 2.3.736b27.

He never offers a solution of the problem. [167] Manifestly, he does not claim to know when human beings receive rational soul. Much less does he say that the male embryo receives rational soul earlier than the female embryo does.

The myth may have arisen from a misunderstanding of the following passage. (The context shows that it about human embryos, though Aristotle does not state this explicitly):

> Efflux is the name for abortions up to seven days, miscarriages for those up to forty days; most abortions occur within these days. Now when the male animal comes away at forty days, although if put into anything else it dissolves and disappears, if put into cold water it sets as in a membrane; and if this is teased apart, the embryo appears the size of one of the big ants with all its parts evident, especially the genitalia, and the eyes very big just as in other animals. Any female animal that is aborted within the three months appears unarticulated *[adiarthraon]* as a rule; any that has reached the fourth month has become divided and achieves the rest of the articulation in quick stages. [168]

The word used here is *adiarthriiton,* "not jointed or articulated," from *diarthroii,* "to divide by joints, to articulate, to complete in detail." Aristotle is making a statement of fact based on observation of the differentiation of the embryo. The text contains no reference to soul, and there is no reason to believe he wishes to solve in an account of embryological development what he calls elsewhere "a very great puzzle."

II.AQUINAS

Aristotle's biological works reached Paris around 1220 in Michael Scot's translation from the Arabic. They caused great excitement, and Albert the Great's lectures on them were so popular that they had to be held in the open air at what became known as Place de Maitre Albert, the present Place Maubert. Aquinas never wrote a commentary on Aristotle's biological works, but he had a detailed knowledge of them. This is clear from passages, to be cited below, in which he quotes these works with precise references. It is clear too from his ready use of Aristotle's biology. When discussing the incarnation he writes that

[167] See Peck, GA, p. !viii.

[168] HA 9.3.583b10.

the body of Jesus was produced *ex purissimis sanguinibus virginis* (from the purest part of th.e blood of the Virgin).[169] This is a manifest reflection of Aristotle's *katharetaton tou peritt 6matos.*[170] He knows too Aristotle's statement that when the parents come from diverse species the offspring tends to resemble the female parent.[171]

It must be said that a true understanding of Aquinas's remarks on the generation of man and woman is impossible without an understanding of Aristotelian biology-though it will be seen below that both he and Bonaventure are aware of rival explanations and treat them seriously.

In Michael Scot's version the critical phrase *to thi!lu hii;per arren esti pepifri5menon* is translated (via the Arabic) as "femina est tanquam mas occasionatus."[172] The Latin *femina* means "the female of any species" and *mas* similarly means "the male of any species." *Occasionatus* is a technical word of medieval philosophy not found in classical Latin. Aquinas says that something is *occasionatum* if it is not intended in itself (per se) but arises from some corruption or defect.[173] This requires explanation.

For Aquinas and the Scholastics generally, as for Aristotle, intention is not found exclusively in human beings. All natural bodies have natural activities, and the outcome of such an activity is said to be intended in itself *(per se intentum).* A plant naturally produces green leaves and these are intended in themselves. But events occur in the natural world that are not the intended outcome of such natural processes. The leaves of the potato plant

[169] Aquinas, III *Sent.,* d. 3, q. 5, a. 1.

[170] GA 2.4.739a8.

[171] Aquinas, IV *Sent.,* d. 36, q. 1, a. 4, sc 2, reflecting HA 6.23.577b10 and GA 2.4.738b30.

[172] In William of Moerbeka's later translation from the Greek, the phrase becomes "femella est quernadmodum orbatus masculus." One may feel that this is a better translation, for *orbus* means "orphaned," and orphans lack parents but are not defective human beings. Moreover, *femella* makes it clear that Aristotle is speaking of the female of every species, and is not making a particular point about the female of the human species. Aquinas and Bonaventure however both use Michael Scot's earlier version. Both would have known that *femina* includes all species, but they see clearly that the phrase could be misinterpreted to mean that woman is defective, and both argue that, correctly understood, the phrase has no such meaning.

[173] Aquinas, II *Sent.,* d. 20, q. 2, a. 1, obj. 1: "Illud occasionatum dicitur, quod non est per se intentum, sed ex aliqua corruptione vel defectu proveniens."

may be attacked by a fungus, as happened famously in the Irish Famine, and then the tubers become discolored and watery (and hence inedible). Such events not intended in themselves are said to be *occasionata.*

To say that something is *occasionatum* and that it arises from some defect or corruption suggests at first sight that what arises in this way is always itself defective or corrupted. But something may not be intended by one active power or agent, and hence be *occasionatum* so far as that agent is concerned, yet be intended by another agent and 'hence be not *occasionatum* so far as this agent is concerned. We may return to an earlier example: wine arises from a corruption of grape juice, Gorgonzola from a corruption of normal cheese. Both are *occasionatum* under one aspect, but both are intended by the human maker and so are not *occasionatum* under this wider aspect.

These examples come from the human world in which people use a process of corruption to achieved a desired or intended goal. But for the Scholastics, Nature "intends" goals in quite as real a sense as do human beings. It may therefore be that Nature makes use of a corrupt or defective process to achieve its intentions and to realize its goals. The outcome of the process is intended by Nature, and since the outcome is intended, it is not *occasionatum* so far as Nature is concerned, and hence, so far as Nature is concerned, it is not defective.

The issue arises for Aquinas when he is discussing God's work of creation, and inquires whether it was fitting that God should have formed woman at the foundation of the world. The inevitable answer to this is yes, but he states an objection to this answer:

> It would seem that woman *[mulier]* should not have been produced in the first production of things. For the Philosopher says in the book *de generat. animal.* that the female is an *occasionatus* male. But nothing *occasionatum* and defective should have been found in the first institution of things. Therefore in that first institution of things woman should not have been produced. [174]

[174] Aquinas, *Summa Tbeologiae* l, q. 92, a. 1, obj. 1: "Videtur quod mulier non debuit produci in prima rerum productione. Dicit enim Philosophus in libro de generat. animal. quod femina est mas occasionatus. Sed nihil occasionatum et deficiens debuit esse in prima rerum institutione. Ergo in ilia prima rerum institutione mulier producenda non fuit."

He replies to this objection:

With respect to the particular nature the female is something defective and *occasionatum,* for the active force in the male semen intends to produce a perfect likeness of itself in the male sex; but if a female should be generated, this is because of a weakness of the active force, or because of some indisposition of the material, or even because of a transmutation [caused] by an outside influence, such as that of south winds, which are moist, as is said in the book *de generat. animalium.* But with respect to universal nature the female is not something *occasionatum,* but is by Nature's intention ordained for the work of generation. Now the intention of universal nature depends on God, who is the universal Author of Nature. Therefore, in instituting Nature, God produced not only the male but also the female. [175]

The language here is highly technical and needs explanation. The crucial point is the distinction between "a particular nature" and "a universal nature." For the Scholastics *natura* means an entity seen as active and doing, rather as we might say that it is a cat's nature to chase mice. Aquinas tells us in another passage what he means by "a particular nature" and "a universal nature":

A particular nature is the active and conservative power that belongs to every individual thing .... a universal nature is the active power in some universal principle of nature (for example, one of the heavenly bodies) or [in] some higher substance-indeed some people say that God is in this sense *natura naturans.* [176]

[175] Aquinas, STh I, q. 92, a. 1, ad 1: "Dicendum quod per respectum ad naturam particularem femina est aliquid deficiens et occasionatum. Quia virtus activa quae est in semine maris intendit producere sibi simile perfectum secundum masculinum sexum, sed quod femina generetur, hoc est propter virtutis activae debilitatem, vel propter aliquam materiae indispositionem, vel eriam propter aliquam transmutationem ab extrinseco, puta a venris australibus qui sunt humidi ut dicitur in libro de generat. animal. Sed per comparationem ad naturam universalem femina non est aliquid occasionatum, sed est ex intentione naturae ad opus generarionis ordinata. Intentio autem naturae universalis dependet ex Deo, qui est universalis auctor naturae. Et ideo instituendo naturam non solum marem sed eriam feminam produxit."

[176] Aquinas, STh I-II, q. 85, a. 6: "Natura quidem parricularis est propria virtus acriva et conservariva uniuscuiusque rei .... Natura vero universalis est virtus acriva in aliquo universali principio naturae, puta in aliquo caelestium corporum, vel alicuius superioris substantiae, secundum quod etiam Deus a quibusdam dicitur natura naturans." Cf. STh I-II, q. 42, a. 2, ad 3.

A particular nature is, say, an individual tree or an individual acorn, A universal nature is a cosmic power regulating the world-it is Nature in the sense in which we say "Nature heals" or "Nature protects," It may, we note, even be God,

The objection comes accordingly to the following, The male semen intends to produce a male offspring, Yet an internal weakness or an external factor may frustrate this intention, and then female offspring is born, The female accordingly is unintended and *occasionatum*, Woman therefore is something defective, and so she should not have been made by God at the beginning of the world, Aquinas replies that the female is not intended by the male semen, and it is therefore *occasionatum* in that sense, But it is intended by Nature, so it is not *occasionatum* as far as Nature is concerned, and since God is the author of Nature the female is not *occasionatum* so as God is concerne<L Hence, so far as God is concerned, woman is not defective, and therefore there is no reason why God should not have formed at foundation of the world,

Special attention must be given to the phrase "with respect to the particular nature female is something defective and *occasionatum,"* The words "particular nature" have sometimes been taken to mean "the particular nature of the female" which is supposed to defective.[177] This is a gross misunderstanding, The words "particular nature" refer to the male semen, or more accurately to the power the male semen, Aquinas states this explicitly in two other passages:

> The generation of the female is outside *[praeter]* the intention of the particular nature, that is, of this power that is in this semen.[178]

And:

> Woman is outside the intention of the particular nature active in this semen, which intends to produce offspring wholly like the [the male] generator.[179]

[177] E.g., S. Fagan The *Irish Times,* 9 Febrnary 1998.

[178] Aquinas, *Summa contra Gentiles* HI, c. 94, n.10. For the text see below, n. 187.

[179] Aquinas, U *Sent,,* d. 20, q. 2, a. 1, ad 1. For the text see below, n. 183.

It may be noted that Aquinas's arguments apply not merely to woman, but to all female creatures. They are all intended by Nature, and hence by the author of Nature, but not of course in the special way in which woman is intended by God, who personally fashioned her at the foundation of the world.

The assertion that woman is "by Nature's intention ordained for the work of generation" must not be taken to mean that woman is primarily or principally intended for the work of generation, or that woman is intended for the generation of children and that man is not. Following Aristotle, Aquinas notes that in plants the active and passive generative powers are in the same individual. They are however separate in animals, because animals have a nobler lifework than generating-that is, exercising their capacity to explore the world in which they live. He continues:

> The human being is ordained for an [even] nobler life work, namely to understand. With even greater reason therefore should the powers [of generation] be separated in human beings *[hominibus],* and woman be formed separately from man: nevertheless they should be joined together in the flesh to accomplish the work of generation. [180]

The text makes dear that the primary purpose of the life of a woman, no less than that of the life of a man, is not to generate but to understand.

The problem implicit in the phrase "femina est mas occasionatus" is discussed by Aquinas repeatedly .[181] Thus he asks whether female children would have been born had Adam not sinned and had the human race continued to live in what we call the Garden of Eden and he calls "the state of innocence." He believes they would, but states the objection:

[180] Aquinas, *STh* I, q. 92, a. 1: "Homo autem adhuc ordinatur ad nobilius opus vitae, quod est intelligere. Et ideo adhuc in homine debuit esse maiori ratione distinctio utriusque virtutis, ut seorsum produceretur femina a mare, et tamen carnaliter coniungerentur in unum ad generationis opus."

[181] He sometimes uses the phrase without comment, no doubt feeling that he has dealt satisfactorily with the problem elsewhere. For instance, it is found at II *Sent.,* d. 18, q. 1, a. 1, sc 1 and is not refuted, but it is refuted a little later at II *Sent.,* d. 20, q. 2, a. 1, obj. 1. See too IV *Sent.,* d. 36, q. 1, a. 1, ad 2.

It would seem that in the state of innocence human beings would have all bodily perfections immediately they were born, both regarding stature and regarding sex. [But] as the Philosopher says in [book] 16 *de animalibus*, a woman *[mulier]* is an *occasionatus* man *[vir]*. Now a thing is said to be *occasionatum* if it is not intended in itself, but arises from some corruption or defect. Since in the original state there would have been no defect in natural operations, it would seem that all would have been born in the perfect sex, that is the male [182]

replies:

Although woman is outside the intention of the particular nature which is active in this semen, and which intends to produce offspring in the perfect likeness of [the male] generator, she is not outside the intention of universal nature, just as corruption not outside that intention]. For without the female there cannot be generation to save the perpetuity of the species. So it was fitting that by divine providence some women should be born, and that in equal numbers to the men, so that one [woman] would be wife] of one [man] [*una unius esset].*[183]

The juxtaposition here of "woman" and "corruption" may suggest to a casual reader that woman is somehow corrnpto But Aquinas is merely making the point that what is against the •• ... of a particular nature may be in accord with the wider intentions of (universal) Nature. "Corruption" is a very strong word in English, for we link it with what happens to bodies after death, but for the Scholastics it means "passing away," a phrase that applies to dying rather that to what happens after death. Now dying is against the intentions of an individual person (or, in Scholastic language, of a particular nature), but is in accord with wider intention of (universal) Nature that one generation

[182] Aquinas, II *Sent.*, d. 20, q. 2, a. 1, obj. 1: "Videtur quod hornines in statu innocentiae statim nati omnem perfectionem corporis habuissent et quantum ad sutrnram et quantum ad sexum. Sicut enim Philosophns dicit in 16 de :mimalibus mulier est vir occasionatus. Hind autem occasionatum dicitur qnod non est per se intentum, sed ex aliqna cormptione vel defectu prnveniens. Cum ergo in primo statu nullus defectus naturalis operationis foisset, videmr quod omnes nati fuissent in perfecto sexu, scilicet virili."

[183] Aquinas, II *Sent.*, d. 20, q. 2, a. 1, ad 1: "Dicendum quod quamvis mulier sit praeter intentionem naturae particularis qnae agit in hoc semine, intendens pirolem adducere in perfectarn similitudinem generantis, non tamen est praeter intentionem naturae universalis, sicnt nee cormptio: quia sine femina non posset esset generatio, nt perpetuitas speciei salvaremr: et ideo etiam per divinam providentiam mulieres aliquas nasci oportebat, et in aequali numero cum viris, ut una unius esset."

should make way for the next. So "corruption" in this sense is something good. Much as we may love our grandparents, we do not wish them to live till the end of the world. Similarly, producing female offspring is against the intention of the male semen, but is intended by Nature itself.

The matter comes up again when the state of innocence is being discussed in the *Summa Theologiae*. Objection and reply are as above, though more briefly expressed. [184]

Aquinas deals again with the matter in a further passage, where he considers the generation of the female within the context of the medieval view that the action of God upon the world is mediated through celestial bodies:

> The female sex happens outside the intention of the active particular nature [the male semen]. Accordingly if there were not some power that intended [to produce] the female sex, the generation of the female would be wholly a matter of chance, as is that of other defective offspring. This is why it is said that, although it [the generation of female offspring] is outside the intention of the particular nature, (which is why the female is said to be an *occasionatus* male), it is nevertheless intended by a universal nature, namely the power of a heavenly body. [185]

One notes here how Aquinas explicitly distinguishes between female offspring and defective offspring. This distinction is found again in the following passage:

> If anything arising naturally is not perfectly like that from which it is arises, this happens either because of a weakness in the power of the agent, as in semen in which the natural heat has been weakened, so that it is not sufficient to generate a male but generates a female, or because of a defect in the material [acted upon], which cannot receive the full power of the agent, as happens in congenital anomalies. [186]

[184] Aquinas, *S'Ib* I, q. 99, a. 2.

[185] Aquinas, *De Veritate*, q. 5, a. 9, ad 9: "Sexus femineus accidit praeter intentionem naturae particularis agentis. *Nisi* ergo esset aliqua virtus quae intenderet femineum sexum, generatio feminae esset omnino a casu, sicut et aliorum monstrorum; et ideo dicitur, quod quamvis sit praeter intentionem naturae particularis, ratione cuius femina dicitur *mas* occasionatus, tamen de intentione est naturae universalis, quae est vis corporis caelestis."

[186] Aquinas, III *Sent.*, d. 11, q. 1, a. 1: "Quod aliquid naturaliter procedens non habeat perfectam similitudinem eius a quo procedit, contingit vei ex defectu virtutis agentis, sicut in semine in quo debilitatur calor naturalis, unde non sufficit ad generandum masculum, sed feminam; vel ex defectu materiae, quae non potest recipere totam virtutem agentis, sicut

The passage dearly distinguishes between the generation of a female and the generation of a congenital anomaly.

A passage from the *Summa contra Gentiles* is of special interest, because in it Aquinas says explicitly that it is the intention of Nature that the female be perfect with the perfection of the female. He is writing of divine Providence and says:

> The intention of a particular agent and that of a universal agent tend towards different things. The particular agent tends towards the good of the part without qualification *[absolute],* and makes it [i.e., the part] to be the best it can, but the universal agent tends to the good of the whole. So a particular defect that is outside the intention of the particular agent may be in accord with *[secundum]* the intention of the universal agent. Thus it is clear that the generation of the female is outside the intention of the particular agent, that is, of this power which is in this semen, which tends to this, to perfect the concept (the embryo) as far as it can; but [the female] is part of the intention *[de intentione]* of the universal nature (that is, of the power of the universal agent for the generation of inferior beings [i.e., beings in our sublunary world]) that the female be generated, without which the generation of many animals could not be effected. In the same way ceasing to be, and becoming less, and every defect, is of the intention of universal nature, but not of the particular nature: for every thing flees defect, and tends rather towards to what is perfect, as much as it can. Clearly it is of the intention of the particular nature that its effect be as perfect as it can be in its kind. It is however the intention of universal nature that this effect be perfect with this perfection, namely the perfection of the male, and that that effect be perfect with the perfection of the female. [187]

accidit in partubus monstruosis."

[187] Aquinas, *ScG* III, c. 94, n.10: "Ad aliud tendit igitur intentio particularis agentis, et universalis: nam particulare agens tendit ad bonum partis absolute, et facit earn quanto meliorem potest; universale autem agens tendit ad bonum totius. Unde aliquis defectus est praeter intentionern particularis agentis, qui est secundum intentionern agentis universalis. Sicut patet quod generatio ferninae est praeter intentionem naturae particularis, idest, huius virtutis quae est in hoc semine, quae ad hoc tendit quod perficiat conceptum quanto rnagis potest: est autem de intentione naturae universalis, idest, virtutis universalis agentis ad generationern inferiorum, quod fernina generetur, sine qua generatio multorum animalium compleri non posset. Et eodem modo corruptio, et diminutio, et omnis defectus est de intentione diminutio et omnis defectus, est de intentione naturae universalis, non autem naturae particularis: nam quaelibet res fugit defectum, tendit vero ad perfectionern, quantum in se est. Patet ergo quod de intentione agentis particularis est quod effectus suus fiat perfectus quantumcumque potest in genere suo; de intentione autem naturae universalis est quod hie effectus fiat perfectus tali perfectione, puta perfectione masculi, ille autem perfectione ferninae."

It should be noted that neither Aquinas nor Bonaventure commits himself to Aristotle's theory of the generation of the female. It was but one of a number of theories held by the scientists and medical doctors of their time, and they do not see it as their task as theologians to determine such an issue. Bonaventure notes explicitly this diversity of opinion:

> There is much discussion among natural philosophers and medical doctors about the difference between the generation of the male and the female. When one asks the reason why sometimes a male is born, sometimes a female, one is given three [different] reasons by different people. One [reason] is a difference on the part of the womb that receives the semen.... Another comes from the mixing of the two sexes.... A third is a difference in the power of the male semen. [188]

Aquinas makes the same point implicitly by taking alternative theories seriously. He writes:

> One [cause of the birth of a female] is a defect in the natural principle of power acting in the semen.... Another cause is the power of the imagination which the bodily powers follow, and so we see that often children are born who resemble those whom the parents had in their imagination during the act of conception .... And this could have been the cause of the generation of females in the state of innocence where children of one or other sex might be born according to the will of the parents .... A third cause arises from an extrinsic factor. As the Philosopher says in [book] 18 *de animalibus*, a small variation in wind or time or something of the sort, can produce a variation in sex. He says that shepherds have found that when the north wind blows, males are conceived, but when the south wind blows, females are conceived because of the abundant humidity. This difference often happens even if the animals are [simply] facing north or south at the time of coitus. [189]

[188] Bonaventure, II *Sent.*, d. 20, a. un., q. 6: "Magna est enim questio apud naturales et medicos de distantia generationis maris et feminae, et cum quaeritur quare modo mas, modo femina, generatur, triplex ratio redditur a diversis. Una a parte vasi suscipientis....Secunda ratio ex parte commixtionis utriusque sexus....Tertia ratio redditur ex parte virtutis seminis virilis."

[189] Aquinas, II *Sent.*, d. 20, q. 2, a. 1, ad 2: "Una [causa] est ex defectu naturae principii agentis cum semine....Alia causa est ex virtute imaginativa quam sequuntur etiam virtutes corporales ....et ita videmus quod filii frequenter nascuntur similes illis quos parentes imaginantur in actu conceptionis ....Et talis causa generationis feminae potuit esse in statu innocentiae, utfilii nascerentur in hoc vel illo sexu secundum voluntatem parentum ....Tertia causa est ex aliquo principio extrinseco, quia parva immutatio, ut Philosophus dicit in 18 de

The point of the second explanation is that it accounts for the birth of female offspring in a way that does not require anything to be deficient, neither the male semen nor the maternal substance. It could then have happened in the defect-free world of the state of innocence. One may note too that according to this explanation a girl might be born because the parents wished to have a girl. Since no parents would wish to have a defective child, one may conclude that a girl is not defective. The mockery of Aquinas produced by his reference to humidity as a causal factor is as unwarranted as is the mockery of Aristotle, from whom the explanation comes.

In the preceding passages the suggestion that woman is imperfect arises from a text of Aristotle. The issue arises in a somewhat different way when Aquinas is discussing the resurrection of the body, and asks whether women will rise in their own bodies. There is an objection:

It would seem that all will rise in the male sex, because the Letter to the Ephesians says "we will all reach the perfect man." Hence [in the resurrection] there will be only the male sex.[190]

He replies:

Just as, considering the nature of the individual, it is fitting that different human beings *[homines]* should differ in size, so, considering the nature of the individual, it is fitting that different [human beings] should differ in sex. Moreover, this diversity belongs to the perfection of the species, the different grades of which are filled by this diversity of sex or stature. And therefore, as human beings will rise in different statures, so they will rise in different sexes.[191]

animalibus, vel venti vel temporis vel huiusmodi, sexus variationem facit. Unde dicit quod expertum est apud pastores, quod quando flat ventus septentrionalis concipiuntur mares, et quando flat meridionalis concipiuntur feminae propter abundantiam humiditatis: et etiam si in ternpore coitus aspiciant ad partem septentrionalem vel meridionalem, sequitur etiam dicta diversitas ut frequenter." Cf. *STb* I, q. 99, a. 2, ad 2.

[190] Aquinas, IV Sent., d. 44, q. 1, a. 3c, obj. 1: "Videtur quod omnes resurgent in sexu virili. Quia dicitur Ephes. 4 quod 'occurremus omnes in virum perfectum'. Ergo non eritibi nisi sexus virilis."

[191] Aquinas, IV Sent., d. 44, q. 1, a. 3c: "Dicendum quod sicut, considerata natura individui, debetur quantitas diversa diversis hominibus; ita, considerata natura individui, debetur diversis diversi sexus; et haec etiam diversitas competit perfectioni speciei, cuius diversi gradus implentur per dictam diversitatem sexus vel quantitatis. Et ideo sicut resurgent

Before turning to Bonaventure it is worth noting that Aquinas does not say that the male embryo is ensouled, that is, receives a rational soul, earlier than the female. He accepts that the generation of an animal is complex, and that the embryo has different forms (i.e., types of soul) at various times during its growth:

> So through the formative power that is there from the beginning in the semen, the form of the sperm should be cast away, and another form be induced; this [form] too may be cast away, and another form is induced. And so the nutritive soul may be first induced; then, this form being cast away, a soul may be induced that is both nutritive and sentient. This being cast away, a soul may be induced, not by the aforesaid power but by the Creator, a soul that is at once rational, sentient and nutritive. And so it is to be said according to this opinion that the embryo, before it has a rational soul, lives and has a soul. [192]

Aquinas does not say when these changes occur. In particular, he does not say at what moment the human embryo receives a rational soul. Much less does he say that the male embryo is the first to receive a rational soul. Indeed while he speaks of the infusion of the soul *(infusio animae)* many times, none of the passages makes any reference to a difference in the moment at which the female and the male embryos receive such a soul. [193]

The myth may arise from another passage where Aquinas is concerned to argue, for theological reasons, that the body of Christ was complete in every detail, even if tiny in size, from the instant of the incarnation. He contrasts this with the development of other embryos in which, as has been seen, details develop gradually. As evidence for this gradual development, he refers to the Aristotelian passage given above, and adds the opinion of Augustine:

homines in diversis staturis, ita in diversis sexibus."

[192] Aquinas, *De Potentia,* q. 3, a. *9,* ad 9: "Sic ergo per virtutem formativam quae a principio est in semine, abjecta forma spermatis, inducitur alia forma; qua abjecta, iterum inducatur alia: et sic primo inducatur anima vegetabilis; deinde ea abjecta, inducatur anima sensibilis et vegetabilis simul; qua abjecta, inducatur non per virtutem praedictam sed acreante, anima quae simul est rationalis et sensibilis et vegetabilis. Et sic dicendum est secundum hanc opinionem quod embrio antequam habeat animam rationalem, vivit et habet animam."

[193] See Aquinas, II Sent., d. 32, q. 2, a. 1, ad 1; IV Sent., d. 17, q. 1, a. Sa; STI7 I, q. 75, a. 6. All instances (some thirty) of the phrase "infusio animae" found in the *Index Thomisticus* of Roberto Busa, S.J., were examined. No reference to a difference between female and male was found.

As the Philosopher says in [book] 9 of *de animalibus,* the conception of the male is not completed until the fortieth day, the conception of the female is not completed until the ninetieth day. But Augustine seems to say that the completion of the body of the male requires a further six days. [194]

Clearly this passage is about the of the body, not about the coming of a rational soul.

HL BONA VENTURE

Bonaventure is as dear as Aquinas in denying that woman is defective. He raises the matter when he says that in the state of innocence women and men would have been born in numbers. To the objection, derived from the phrase of Aristotle, that woman is defective and would not have been born in this state of innocence, he replies:

The Philosopher does not wish to say that the female *[femina]* lies outside *[praeter]* the intention of Nature, but that the natural power has a defect in the generation of a woman *[mulier]* as compared with the generation of a man [vir]. That defect however does not oppose the order of Nature, rather it preserves it. For according to the order of Nature, as in the same body some stronger members are formed and some less strong, so in the one species some individuals are formed of one sex, some of the other. Accordingly, although a defect that corrupts the order of Nature, such as that which causes a defective member or a poor mixture of body materials, may be outside the intention of Nature, the generation of a woman is neither outside Nature nor contrary to *[contra]* Nature, but according to *[secundum]* Nature. [195]

[194] Aquinas, Ill *Sent.,* d. *3,* q. 5, a. 2: "ha quod maris conceprio non perficirnr usque ad qlladragesimum diem, ut Philosophus in 9 de Animalibus dicit, feminae :mtem usque ad nonagesimum. Sed in completione corporis masculi videtur Augustinus superaddere sex dies." See ibid., ad 3.

[195] Bonaventure, II Sent., d. 20, a. un., q. 6, ad 1: "Philosophus non vult dicere quod femina sit praeter natmae intentionem, sed quod virtus naturae aliquem defectum habet in prnducrione mulieris respectu prodnctionis viri; ille autem defectus non repugnat ordine natmae, sed potius salvat. Secundnm enim ordinem naturae, sicut prod11cunrnr in eodem corpore quaedam membra magis fmtia, quaedam minus; sic produc11ntur in eadem specie quaedam individua unius sexus, qnaedam alterius. Et ideo licet ille defectus qui ordinem naturae corrumpit, ntputa est ille qui est causa defectus membri vel bonae complexionis, sit praeter naturae intentionem, generatio autem mulieris non est praeter naturam nee contra naturam sed secundum natnram."

One notes here the dear distinction between a true defect, such as a deformed limb, which is unnatural, and the female state, which is wholly natural.

Manifestly, Aquinas and Bonaventure deny that woman is defective. There may have been medieval theologians who did not follow their lead; if so, one would be glad to have their names, and the references.

Aquinas does indeed say that the human beings differ in mind and body, and that man has greater *vigor animi* and *robur corporis* than woman, [196] but perhaps this should be dealt with as one deals with the many assertions in the present culture of, say, the greater emotional maturity of woman. Bonaventure may be wiser when he writes that the union of husband and wife has in it something of the wondrous *(mirabile),* [197] for there man rests in woman and woman is strengthened by man. [198]

[196] Aquinas, IV *Sent.,* d. 25, q. 2, a. 1, ad 1.

[197] Bonaventure, IV Sent., d. 36, a. 2, q. 3, ad 2: "Sed in matrimonio ubi est servitus corporis et debet esse mutuus amor, decrevit Deus ut nullus possit vel debeat nisi propria voluntate obligari. Est enim ibi quoddam mirabile, quia homo invenit in muliere aliquam complacentiam quam nunquam posset in alia invenire, ut dicunt experti" ("But in marriage, in which there are bodily debts and in which there should be love, God has decreed that no one can or should come under an obligation except by their own decision. Here there is something wondrous, for man finds in woman [his wife] a shared happiness which he could not find in any other woman, as the experts say").

[198] Bonaventure, II Sent., d. 18, a. 1, q. 1: "Vir enim et mulier secundum suorum sexuum proprietatem et naturam facta sunt ut invicem coniungarentur, et ex hoc unus in altero quietaretur et unus in altero sustentaretur" ("Man and woman are made, by the special characteristics of their sex and by nature, to be joined together, and in such a way that one rests in the other and one is strengthened in the other").

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CHRISTIAN SEXUAL ETHICS AND TELEOLOGICAL ORGANICITY

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And now, Lord, not through lust [dia porneian] do I take this kinswoman of mine, but in truth [ep' aletheias]. (Tob 8:7)

I. INTRODUCTION

The present paper sketches a new approach to Christian sexual ethics by an integrated synthesis of ontological and phenomenological approaches which avoids the weaknesses that the two approaches can have when in separation and in their traditional forms.

In the twentieth century, beginning with the 1930 Anglican Lambeth Conference, we have seen many hitherto unanimously accepted elements of Christian sexual ethics come under increasing critical fire. Some of the criticism has focused around a growing understanding of the importance of the unitive meaning of sexuality; as a result, traditional natural-law arguments against, for example, artificial contraception [1] and

[1] The term "contraception" will be used to meau any activity whose intended purpose is to decrease the fertility associated with a sexual act. Sometimes, to stay in line with accepted terminology, the adjective "artificial" will be used with "contraception," but this is unfortunately misleading as it is not the "artificiality" in the sense in which we talk of, say, "artificial additives" in food which is relevant here *(coitus interruptus* on my definition, after all, counts as a method of artificial contraception); rather, the central feature is that the "artificial" contraception is directly aimed against the fertility of a sexual act. I would much prefer if the clearer term "direct contraception" were accepted in place of "artificial contraception," but I will use the more traditional term in this paper. For clarity I now

homosexual acts, based on the importance of the procreative meaning of sexuality and the natural orderedness of the sexual faculties towards procreation, have been dismissed even by a number of Christian ethicists.

The natural-law arguments in the field of sexuality first require a controversial metaphysics of morals which would let one say that the teleologies (i.e., processes directed at an end) found in nature have intrinsic values connected with a doctrine of primary ends. Moreover, these arguments will be rejected by those who will hold that the unitive end of the sexual act is no less primary than the procreative, so that, according to these persons, it is possible to seek the unitive while acting directly against the procreative. This paper will show that the idea that there is a such a possibility is mistaken. The argument will be based on the dependence of the unitive end on the generative features of the sexual act.[2]

mention that certain periodic abstinence methods for sexual acts, known under the title of "Natural Family Planning," are not intended to fall under the above definition of "contraception." That they *in fact* do not fall under it will be argued below.

[2] That there is such a dependence is not a new idea. Indeed, positing such a dependence is probably the best reading of the traditional idea that the procreative end of sexuality is primary. Recently, in an excellent paper with much of which my analysis agrees, John Lamont ("On the Functions of Sexual Activity," *The Thomist* 62 [1998]: 561-80) has argued for the same conclusion that achieving the unitive end requires that the sexual act be an act of a kind which is generative. However, Lamont starts with a different notion of unity from the one the present paper will use. For Lamont, "unitive acts are those which express and promote love between persons" (563). Yet one might worry that, surely, unitive acts are those which promote *unity* between persons *(note:* by "unity" I do not mean "identity"; the husband and wife despite having a unity-being *one* body-are still *two* persons). And perhaps not all unity is a result oflove. For instance, a worm is *one* worm since it has an inner unity. But this unity is not to be analyzed in terms of acts that express and promote love between beings, unless of course one is to talk analogously of the parts of the worm as loving one another in the sense of promoting each other's good. Furthermore, it follows from Lamont's view that unitiveness *as such* is always good, since it is always good, as such, to seek the good. But unitiveness always being a good seems to conflict with St. Paul's ideas in 1 Cor 6:15-16 (see note 20, below). Also, Lamont expressly leaves aside "the question of whether intercourse can be unitive that is done for the purpose of conferring a good that is not present in the intercourse itself' (570). But an advocate of artificial contraception may say that it is precisely in this *indirect* way that intercourse is unitive-that intercourse promotes some remote goods such as mutual understanding and tenderness. Lamont, of course, can reply by giving the analysis I give below, namely, that seeking such goods is not *physically* unitive-unitive as one *flesh.* Hence, parts of this paper can be seen as filling in gaps in Thomistic arguments like Lamont's. See notes 19 and 20 below for further discussion

Simultaneously with the waning of the older, more ontologically oriented arguments associated with the natural law there has come a rise in phenomenological analyses of sexuality based on such notions as "total self-giving," developed by such philosophers as Karol Wojtyla. These arguments attempt to show that certain sexual behaviors (e.g., the use of artificial contraception) are always incompatible with human dignity. From the point of view of contemporary discussions, the main advantage of these arguments over the older natural-law ones is that the new arguments place an emphasis on the phenomenological meaning of the sexual act *to the human subjects involved,* rather than simply examining the acts from an objective, ontological, "God's-eye" vantage point.

Unfortunately, phenomenologically based arguments can be perceived (justly or unjustly) to be merely subjective descriptions of personal psychology, and are thus in principle open to the objections of those who claim that their phenomenology does not agree with the phenomenology described in the arguments. That this is not a fair criticism will be seen in this paper from an analysis of the ontological underpinnings of the phenomenology of sexual union as one flesh and one body.

Genuine phenomenology always leads to ontology. We can see this general principle expressed in the fact that *intentionality* (i.e., consideration of the referent of the objects of thought as existing in extramental reality), is a basic concept of phenomenology. We can also see it in the fact that the central morally significant phenomenological states of persons presuppose ontology. Thus, love presupposes an actually existing beloved. It is impossible to love a person without simultaneously believing this person really to exist.[3] Even if in a pathological situation one knows that the object of love does not exist, still, in order to love it one will have to *assume* that it exists.[4] The principle that phenomenology requires ontology is particularly true with respect to sexuality. There are many forms of interpersonal union. While some

of Lamont's article.

[3] St. Augustine, realizing this basic phenomenological fact, said, "none can love what he does not know" (De *Trinitate* 10).

[4] This may explain why some affectively involved mathematicians can become, at least implicitly, Platonists, since they may wish to love the objects of their study.

ontology is always presupposed (at the very least, the existence of the other person), among the natural forms of interpersonal union it is sexual union that is the most tightly bound to physicality, and thus also to a fixed ontology. Even though this is often overlooked, consideration shows that it is a mistake to separate out sexual union from its physical[5] reality, since this union is effected precisely in and through its physicality. The physical reality of this union is phenomenologically essential: if two persons found out that what they thought was a real sexual act was in fact a hallucination or dream, they would feel that their phenomenology and feelings during the hallucinated or dreamt act were in fact out of step with reality. One can expect that the realization that the act was merely hallucinated or dreamt would detract from any unitive significance; indeed, the persons can be expected to feel cheated or deceived by the hallucination.

The present paper shall in part be directed at regaining a more physical understanding of sexuality.[6] It is ironic that at the end of a century as materialistic as ours, a central error with respect to sexuality is the divorcing of its meaning from its physical reality.[7] Basing the discussion on an idea of teleological organicity inspired by Hegel, this paper will undertake to bridge the gap between phenomenology and ontology, which is the central weakness in both the natural-law and the phenomenological arguments. In other words, the paper will attempt to answer this central question: what relevance, if any, does the ontology of the sexual act have to its unitive meaning?

The answer will lead to an organic understanding of the sexual act, which will not only easily yield moral insights and lend itself well to being taken as foundational for a genuinely Christian sexual ethic in which the central principle is the physical expression of love in becoming "one body" and "one flesh," but

[5] In this paper, the term *physical* (in keeping with its etymology) is used describe material nature in general. In particular, it covers not just what physics studies, but also what belongs to the province of biology.

[6] I am most grateful to Abigail Tardiff for this formulation.

[7] An explanation of the paradox may perhaps be found in the fact that this century's materialism is based not on physical reality as studied in general by the special sciences, but specifically on physical reality as studied by physics-to the neglect of physical reality as studied by biology.

will also illuminate the nature of the unitive component of sexual union and show how this component is inextricably connected with the physical nature of the act as being innately connected with the reproductive process. That there is such a connection is asserted by many defenders of the traditional Church teaching concerning contraception. This paper will provide an argument for the existence of such a connection, and will also describe it. The central thread running through this paper is the idea of the phenomenology of the sexual act as bound up with ontological reality and hence with truth. Hence the epigraph at the beginning of this paper from the Book of Tobit, in which Tobias says that he is not taking his wife out of lust, but rather that his consummation of the marriage is grounded in *truth.*

The relevance of *truth* and *reality* to sexuality is even reflected in the epistemic metaphor (the Hebrew *yada'* signifying not only "'knowledge" in the usual sense but also sexual intercourse) for the sexual act that is employed so much in the Bible. This focus on truth and significance is, of course, not new,[8] but the way in which I analyze the constitution of the organic union as one body and one flesh wiU I believe be new. The present approach may also be considered as complementary to the more standard approaches to sexual ethics. It in no way contradicts the analyses of sexuality in terms of "self-giving"; rather, it works on a different, complementary level, that of the biophysiological ontology of the sexual act.

I will begin by discussing the notion of teleological organicity. Some relevant discussion of marital union and marriage, particularly in the light of basic biblical data, will follow. This discussion, while perhaps not in itself particularly controversial, does provide a grounding for the rest of the paper. The heart of the paper will examine the sexual act itself to discover an ontological meaning and consequences for the idea of union as *one flesh, one body.* Given the controversial nature of the issues, a number of objections will have to be refuted next, before the final conclusions.

[8] See, e.g., John M. Finnis, "Personal Integrity, Sexuality Morality, and Responsible Parenthood," in *Why Humanae Vitae Was Right: A Reader,* ed. Janet E. Smith (San Francisco: Ignatius Press, 1993), 171-94.

One could, of course, simply give th,e Christian Church's constant, morally unanimous stance from the beginning of Christianity until A.D. 1930 as proof positive ofthe correctness of the traditional doctrines about sexual behavior. While this would be seen by those who accept the Church's infallibility as a sound proof from authority, nonetheless (1) not aB accept this infallibility, (2) even those who do accept it sometimes suffer from doubts about portions of the faith and argumentation is useful to them, and, above all, (3) given the Christian commitment to morality in the time of the Renewed Covenant not as arbitrary but as *reasonable,* written in the heart and answering to the deep truths in human [9] it is important to understand not only *that* certain moral doctrines hold but also *why* they hold. Such understanding strengthen commitment to moral practices and illuminate one's understanding of human nature and the divine plan.

The arguments I shall employ will be philosophical and biblical, and hence in principle accessible not only to Catholics, but to all Christians who accept reason and Scripture. There is a definite sense, already discussed above, which my arguments will not exactly the traditional Thomistic ones. However, the arguments of this paper do lie within the same tradition of an analysis of acts as having their identity and value defined by their objects.[10] Perhaps even more importantly, the notion of unity that Wm be employed win be one with deep roots in Aristotelian-Thomistic teleology.

IL 0RGANICITY

An *organism* is an entity united an integrated action of itself directed at an end, a *telos.* This is the central Hegelian notion of the present papero While this characterization of the unity of an organism has obvious Aristotelian roots, it is Hegel that it came

[9] Here "heart" is used in the Hebrew sense of *lebhabh,* which indlllldes at least both mind and affect.

[10] This tradition is Slllmmarizedin a particularly clear way in Lamont, "On the functions of Sexual Activity," 564-69.

into its own.[11] The whole of the organism must be united in the action-we are here talking of "irreducibly collective actions" [12]-and it is then the unity of action which constitutes the organism's unity.[13] It is not necessary for the action to be successful,[14] nor even for it to have a realistic chance at succeeding-it is the *striving* in the direction of the end that makes the organism an organism, a striving that is itself an ontological reality.

Any animal or plant is an organism, because it is doubly united in action directed at two ends: self-preservation and reproduction. The second of these ends is transcendent, in the sense that it lies beyond the particular organism. (The notion of an end being transcendent will also be important for the argument.) To give some theological examples, the Church as the Body of Christ is an organism, united in striving for the kingdom of God, a transcendent end insofar as it reaches in the direction of the Transcendent One. The Trinity is itself an organism, united in one action, one *energeia;* it is itself *pure act,* an act in which it knows and loves itself, with its triune Godhead being eternally produced by that simple act. The act is neither transcendent nor nontranscendent: it is not transcendent, since it does not go beyond the Trinity; it is not nontranscendent, since it is directed at Transcendence Itself. The human person, consisting of body

[11] "If the relation ... of the organism to the natural elements does not express its essence, the notion of End, on the other hand, does contain it" (G. W. F. Hegel, *Phenomenology of Spirit,* trans. A. V. Miller [Oxford: Oxford University Press, 1977], 156). Moreover, understanding the unity of an organism in terms of teleological striving, together with Hegel's belief in what Taylor calls "irreducibly collective actions" (Charles Taylor, "Hegel and the Philosophy of Action," in L. S. Stepelevich and D. Lamb, *Hegel's Philosophy of Action* [Atlantic Highlands, N.J.: Humanities Press, 1983], 15), makes comprehensible how Hegel can consider nations to be irreducible entities (indeed, one might say, "irreducible organisms"), for it can be argued that, according to Hegel, nations engage in "irreducibly collective actions," and it is such actions that ensure the unity of an entity.

[12] Cf. Taylor, "Hegel and the Philosophy of Action," 1-18.

[13] Note that cases of causal overdetermination do not constitute organic unity. If two entities are each causally capable of separately producing a single effect X, then the fact that they simultaneously work to produce this effect does not constitute organic unity because there is no single action-there are two independent actions.

[14] This is probably a departure from Hegel, but one that is necessary. An organism is no less unified as an organism if it fails to attain its end than if it succeeds.

and soul, is likewise an organism united in stnvmg for an end-ideally, the transcendent *telos* of the glory of God.

A stone, however, is not an organism; it does not have an action directed at an end. Likewise-and it may be helpful to keep this image in mind while reading this paper-if I take two cats and tie them by their tails, I do not have a single organism. They do not as one body, together, co-operate in an action directed at a single end. Each cat seeks its own end (namely its own self-preservation and reproduction), and thus there are two organisms and not one, even if they might happen to walk in the same direction. Physical contact and continguity is thus not a sufficient condition for organicity, though in many natural cases it is a necessary precondition. To give another example, if my finger is cut off and then surgically reattached, but it fails to thrive and is only a dead finger attached with sutures, then the finger and I do not form a single organism; but if the finger thrives and lives with me, then we are united as a single organism, striving towards a single end (again, ideally, the transcendent end of the glory of God). To give a hint of what is to come later, note too that if the reattached finger has a piece of latex placed between it and my hand, the finger and I will not become a single organism. [15]

To forestall a possible objection, [16] it is worth discussing how far this approach to organic unity can be said to be functionalistic. Insofar as functionalism describes things by *projecting* functions on them through an analysis of their causal connections (with "causal" understood in the sense of efficient rather than final causation), the approach of this paper is not functionalistic. Strivings towards ends or *tele* I take to be intrinsic features of reality as such, and not mere projections upon a nonteleological ground. In other words, rather than calling X an organism provided we project an integrated striving towards an end onto

[15] It might be objected that union in striving for a single unified end is only *necessary* for organic unity but not sufficient, some additional conditions (e.g., interdependence) being needed for sufficiency. Even if this objection is correct, it will be seen that the sexual-ethics arguments of the present paper continue to be sound, since it is only the necessity of teleological union in striving for organic unity that will be needed in my arguments.

[16] This objection was pointed out by an anonymous reader of a previous version of this paper, to whom I am indebted.

X, I call X an organism only if *in objective reality* X can be correctly described as exhibiting the integrated striving towards an end. The use I will make of my Hegel-inspired notion of an organism will be such that it will be necessary that the strivings be ontological features of reality.[17]

Ill. THE MARITAL UNION

The sexual act has traditionally a meaning of binding the husband and wife into one flesh (Gen 2:24). In Jewish tradition, it is the sexual act that effects the union: when a man engages in the sexual act with a virgin, he must pay the marriage price and marry her, unless the virgin's father refuses to allow the marriage (Exod 22:16). Christian tradition, however, recognizes a deeper spiritual component to the marriage, and thus a binding union is effected by the sexual act only when a sacramental marriage has first been entered into. However, the sexual act nonetheless continues to have the binding power, since an unconsummated marriage can be dissolved, while a valid consummated sacramental marriage cannot be sundered under any circumstances other than the death of one of the parties. The recognition of the sexual act as having binding power in both Jewish and Christian tradition is also confirmed phenomenologically by the empirical observation that people who engage in the act do *feel* bound, psychologically; perhaps the best illustration of this is how the unhappy heroine of Thomas Hardy's penetrating novel *Tess of the d'Urbervilles,* though more sinned against than sinner, felt a deep bond to the man who had sinned against her.

Saint Paul writes that when a man joins with a prostitute they become "one body *[s6ma]"* (1 Cor 6:16). (It is worth noting the choice of words: not just "one flesh *[sar.x],"* although St. Paul refers to the passage in Genesis which in the Septuagint does talk

[17] The notion of unity involved here is one that can actually be linked to deep Thomistic insights. Central to Saint Thomas's, and perhaps also Aristotle's, philosophy is (at least on one reading) an ontology of the correlativeness of act and substance-as-agent. The unity of a substance derives from the unity of the substance's act (whether the act of existing or the act of tending to pursue the ends specified in the substance's nature/essence). The organic unity I describe in this section in an analogous way derives from the unity of the act performed by the agents who are to be united by the act.

of *sarx.)* This teaching first of all tells us that the passage from Genesis 2:24 was talking specifically of the sexual act itself and not so much of marriage-since after all the man is not married to the prostitute. Hence, Christ's use of the Genesis passage in connection with the indissolubility of marriage (Matt 19:6) tells us that there is a binding power in the sexual act. Indeed, perhaps one could argue that it is only out of the recognition that the spiritual binding is even more important (as well as a merciful compassion on sinful humanity) that the Church in the time of the New Covenant does not press in place the requirement of Exodus 22:16 that a man be bound to marry the virgin with whom he has engaged in sexual acts. But in any case the sexual act, because of its intrinsic significance of *binding together* as emphasized by Jewish tradition and of *permanent* (i.e., until death) binding together as taught by Christ, may not be engaged in outside the context of a permanently binding union. The act intrinsically signifies union, and for it to be engaged in outside of such a context is a lie and deceit.

One can also say that the act signifies a depth of love that cannot be impermanent. To engage in the act without the commitment of a permanently and objectively binding union is like the case of a young man who says to a young woman

> I love you passionately, wondrously, infinitely. Should you refuse me, I will pine away for the rest of my life in sadness and pain-but let that not concern you, for I will do this with the consolation that I have loved and that you are happy with another. But, I beg, break not my heart, for without you I cannot live. So, my dearest, my beloved, will you live with me?

while making the mental reservation "until I grow tired of you." This reservation would contradict everything else that was said, making it all into a lie, and were the unfortunate young woman to know about this reservation, she might do very well indeed to slap the liar on the cheek and leave him in disgust. In the same way, a sexual act without the context of the objective commitment of a permanent union is an intrinsic contradiction or, worse, a *lie*. Such a sexual act is like uttering these same lines, with the clause "until we grow tired of each other" being implicit in the fact that a till-death-do-us-part commitment is not yet

present. It is thus a lie, for it expresses a commitment which is not present. The act is not done *in truth.*

Thus far we have one half of the Christian teaching: *the sexual act is to be performed only in the context of an objectively binding till-death-do-us-part union.* It is the other half of the Christian teaching that is now to be considered, namely the teaching as to what the act itself is and what it signifies.

IV. THE SEXUAL ACT

A) Organicity

As noted, the Book of Genesis tells us that the sexual act makes the man and woman into one flesh *(basar, sarx).* Saint Paul takes this one step further-they become one *body (s6ma).* For St. Paul, "body" is an important concept; after all, the Church is the body of Christ (Rom 12:5). The transition from flesh to body assures us of an organicity. Flesh could, perhaps, be just a *piece* (or even a collection of unconnected pieces) of a body. Saint Paul, however, interprets Genesis as telling us that there is union as one *body.* Surely neither he nor Genesis is talking of a dead body. So the husband and wife become one *living* body. But a living body is precisely an organism. And the idea of the sexual act as normatively being the effecting of an act of becoming one flesh/body has deep phenomenological support.

The central theses of this paper will all flow from this analysis of sexual union: the husband and wife are to become *one organism* in the sexual act. Of course the husband and wife also become one organism in a number of other senses, for example, through cooperation in raising children, through strengthening each other in their respective daily labors, and above all through a mutual pursuit of the kingdom of God. However, it is the special unity effected in and through the sexual act that is the point of this paper.

Suppose for now that the sexual act is performed in such a way as to lead to the man and woman to becoming one organism on a biophysiological level. For, indeed, Genesis's use of the physical

word *flesh* indicates a biophysiological level of binding into one body, not just a spiritual binding. [18]

By the teleological analysis of organicity, to say that a man and woman jointly constitute one organism is to imply that they are united in a single action oriented in the direction of an end, and it is this teleological cooperation or striving that constitutes the organism's principle of unity. What is the end towards which this organism strives? On a biological level the answer is perfectly clear: reproduction (of a person who is the child of both partners). [19] The striving towards this is the biophysiological action in and through which the joint man-woman organism is united. It is true that at times circumstances may be such as to ensure that the end is virtually unattainable. But the *striving* of the organism towards that end is still present. It is essential to note that it is the *biophysiological* union that is being described here, for indeed the sexual act is evidently a biological act. Observe, too, that the biophysiological striving of the united organism for the end of reproduction will be present whether or not the persons involved are consciously willing this end. Note, too, that this end is *transcendent;* it goes beyond the man and the woman

[18] In all sacraments other than the Eucharist and matrimony the material aspect (e.g., the water of baptism) is only a sign (though it is an effectual sign chosen by God's infinite wisdom) of the spiritual reality. In the Eucharist the material not only signifies but also is the reality. In the sexual act we have something in between: the spiritual reality is signified by the material reality of the sexual union, but at the same time the material reality of the sexual union is in itself not just a sign but an essential part of the whole.

[19] The reason for this parenthetical qualification is as follows. One may have a certain subtle concern about Lamont's analysis according to which unitiveness in the sexual context consists in the couple conferring on one another the good of being enabled to participate in the sort of act that is generative ("On the Functions of Sexual Activity," 568). Presumably this is to be an analysis of sexual union. However, suppose that a doctor treats a man for impotence by prescribing Viagra. By doing so, the doctor confers on the man the good of being enabled to participate in the sort of act that is generative. But surely the doctor does not thereby become sexually united with his patient. This may seem like nit-picking since to get rid of this concern one need only specify that for sexual union one must enable one's partner to participate in the *same* act as one engages in oneself, an act that must be of a sort that is generative. However, once sameness of act is added as a condition for acts to be sexually unitive, Lamont's view has already been changed significantly, in a way that brings it closer to the arguments of this paper. For the best way to specify the sameness of act appears to be teleologically, by saying that both partners' bodies strive towards (though perhaps do not attain) the generation of a child that will be the child *of both-and* this is what the parenthetical qualification I add in the text does.

(since the attainment of the end is the procreation of a new person). [20]

The phenomenology of the sexual act is such that union as one flesh and one body is essential. Given the central guiding principle that all humanly significant phenomenology must have ontological grounding, this union must be ontologically grounded. Given the Hegel-inspired analysis of organic unity, we

[20] It is in this paragraph that the differences between the present approach and Lamont's are most clear. For Lamont, nnitiveness is constituted by striving for the good of the other. But on the view I am giving, unitiveness is constituted by a common striving. The present approach has the advantage that it does not automatically follow from the definition of unitiveness that unitiveness is good. It seems according to St. Paul (1 Cor 6:15-16) that sexual unity with a prostitute is *as unity* a bad thing. This fits well with the present view. Certain kinds of unity are only good within certain relationships and under certain conditions. Lamont would have to say that the intercourse with the prostitute is not bad insofar as it is unitive, but insofar as other things are lacking to it. But St. Paul certainly does seem to be using the very *unity* in the sexual act as an argument against intercourse with the prostitute. The difference between the definition of unity employed in this paper and Lamont's can also be clearly seen if we consider the following case: Jones wills a good *x* of Smith, which good Smith does not himself will, and Smith wills a goody of Jones, which good Jones does not himself will. On Lamont's analysis, these willings are unitive-since they are willings of goods-and presumably unity results. However, on the view I have been advocating, there would only be unity insofar as both were to strive for the *same* end (i.e., if Jones were to will a good *x* of Smith, and Smith were to also to will *x).* This view has the advantage that it does justice, in a way in which Lamont's does not seem to, to the insight that all union involves some kind of oneness--on my theory, oneness of end. Lamont could reply that even if Smith does not expressly will *x,* nonetheless he naturally strives for *x* if *xis* truly a good of Smith, and hence there still is a oneness of the ends of striving. But, were Lamont to give this reply, then his view of unity would turn out to be much the same as mine, with the added qualifier that the end which unites must be good. Another way of bridging the gap between my view and Lamont's would be to note that for Lamont sexual unity is achieved through striving for the good of the activation of the other's reproductive functions. But the activation of reproductive functions is defined by the body's seeking the end of reproduction-functions are defined by their ends. Thus, one's body's striving for the good of the activation of the other's reproductive functions *qua* reproductive is a striving for reproduction. Finally, it is worth mentioning another possible shift in this paper vis-a-vis Lamont's. In this paper, the notion of "being of the same sort of act as a generative act" implies that there is an actual joint striving for generation by the bodies, even if this striving cannot succeed. It is not clear whether Lamont's notion of "function" carries this implication. (And if it does not, then one would worry that the notion of "being of the same sort of act as a generative act" gives too loose a connection between those natural acts of intercourse that are *per accidens* nongenerative and those that are actually generative, that it gives a connection not strong enough to allow the value of reproduction to be derivatively conferred on the acts of the former type. A Thomist might not have this worry, but a typical advocate of contraception is likely to.)

have seen that the union as one flesh one body, in order to have ontological grounding, must be grounded in a striving in the direction of the *telos* of reproduction. I had daimed that the use I will make of the notion of an organism will necessitate that the strivings that will unify the organisms be actual ontological features of the world, and not mere projections. This daim is now verified: reality, indeed physical reality, not mere projection, is essential to the phenomenology of the sexual act. The organic unity effected by the sexual act must be real and not a mere projection-otherwise it could not have the deep phenomenological significance that it: does. Hence the striving by which this organic unity is effected must be an ontological reality, and not a merely projected func-tion. This approach is therefore not projectively functionaHstic, but of necessity somewhat Aristotelian, since it imputes to biological nature objectively real strivings for *teliJ*.[21]

B) The Unitive Component and Contraception

Because on a biological level insofar as a sexual act is an organic union it is a union effected in and through the striving of the organism towards reproduction, it: follows that for the sexual act to have an organic unitive component on the biological level, it must be open to procreation.

[21] A scientistic physical reductionist might counter that there are no such strivings in nature: natme, on his view, reduces entirely to the law-like movements of elementary particles. If this is so, then the whole phenomenology of sexual rnnion is rnngrnumled and hence wrong. This phenomenology, howsoever constmed, requires a nomeductive understanding of the human body; otherwise, that which is unique to sexual union .as a physical union between persons is overthrown. The phenomenology of sexual union is then basically a lie as it deceives us into thinking that bodies have a significance over and beyond movements of elementary particles. A view that leads to snch a conclusion, needless to say, is completely incompatible with the biblical views underlying the idea that sexual union is a real union as one body, one flesh. furthermore, it can be argued that in biology one cannot dispense with functional descriptions. And if one takes biology to describe reality (and alter all, why should the physics beloved of omr scientistic reductionist alone have a claim to the truth? is not biology also a science?), then these functional descriptions must reflect an ontological reality. Obviously much more would need to be said to fill out the argument from the science of biology: for our purposes, however, the phenomenological and biblical arguments suffice.

Consider what is done by modifying the sexual act so as to remove its openness to procreation. By such a modification the persons involved lay an obstacle on the way of the united man-woman organism's action, which action was oriented, on a biological level, in the direction of the reproduction which is the end. But because the orientation of this action in the direction of the end is precisely what biologically constitutes the organic unity of the man-woman organism, it follows that such a laying of an obstacle is precisely laying an obstacle to the organic unity of the man-woman organism. Thus, to modify the sexual act in order to remove its openness to procreation is nothing other than to modify the sexual act in a way that is opposed to its unifying role on the biological level.

Someone may object that this may very well be so on a *biological* level, but on a *personal* or *spiritual* level the unity may still be promoted by the act as a whole. In response to this objection, over and beyond pointing out the dualism inherent in it (the neglect of the fact that the biological is a *part* of the human person), one can ask: if there is no unity on the biological level, why should the sexual act-itself, after all, basically a biophysiological act-in any way contribute to an ontological union of *persons?* After all, since the act considered in and of itself is a biophysiological act, why should it contribute to a union of persons, unless it unites them in the biological component of their human personhood so that through the holistic unity of the human person they also become spiritually united as persons? The meaning of the sexual act is tied to the biology of this act; sexual union essentially involves a physical union-it involves becoming "one flesh," "one body." For there to be phenomenological union, the persons must at least believe there is ontological union on a biological level. But if they act against conception and if they understand that it is through the teleological striving of the organism (perhaps without the persons voluntarily willing the end of procreation) in the direction of procreation that union is constituted, then their actions against conception are likewise actions against union.

At this point the gap between the personal (and the phenomenological) and the ontological has been bridged. Persons

who understand what kind of unity is biologically involved in sexual union cannot seek union on a phenomenological level while simultaneously acting against the biological teleology that constitutes the physical correlate of this phenomenological union, because the phenomenology itself requires that the union be constituted through the physical. Persons who contracept, thus, are making sexual union into an aphysical and abiological process, which is contrary to the basic phenomenology of the sexual act as a biological process and a physical union.

The intrinsic contradiction in the contraceptive act not only acts against the unity between the two persons, but also strikes at the intrinsic unity of each of the persons taken on his or her own. By willing the sexual union as one body and one flesh (which willing is required by both Scripture and the phenomenology of the sexual act), each sets his or her body into a striving in the direction of reproduction. And since, by my above analysis, the union as one body and one flesh *is* this striving, by willing the union the person implicitly wills the striving. At the same time, by willing the contraceptive act the person wills that the striving not reach its end. Thus there are two willed teleologies active in such a person: the biophysiological teleology acting in the direction of reproduction and the contraceptive teleology acting against reproduction. This shows a disunity in the will of the person. At the very least it also shows that any biological union achieved in such a sexual act is not an act of the person but of the person's body alone, since by willing the negation of the end of the teleology that constitutes the biological union one ensures that this union is not properly speaking an act of one's person.[22] Furthermore, if the unity is not achieved by an act of the person, then the unity is not a personal/spiritual unity.

Moreover, to use the sexual act as a way to a spiritual union, a union of persons, and yet to prevent the act from being a biological union makes the act at the very least superfluous, since

[22] If, further, we accept that it is ontologically impossible to will as such a teleological process *t* striving for some *telos x* while at the same time willing that that *t* should fail to succeed in reaching *x*, then we see that ontologically speaking it is impossible to will sexual union *as* such while having a contraceptive will. By my analysis, to will union as such is implicitly to will a teleological process striving for the *telos* of reproduction; but to will contraception is nothing else than to will that this process not succeed.

spiritual union can be achieved in other ways. In fact, we can now see that it makes the act much worse than superfluous. By deliberately modifying the sexual act so as to make it less biologically unifying (or making it less fertile, which amounts to the same thing), the couple is necessarily (though perhaps not consciously) signifying that they wish to be less united as persons than they could otherwise be. Unless they are victims of invincible ignorance, this can surely only adversely affect their spiritual union. Thus it is self-defeating to use spiritual union as a justification for contraception.

Moreover, in its intrinsic natural meaning the biological unity in the sexual act signifies the spiritual unity of persons. Therefore, the intrinsic meaning of a deliberate decreasing of the biological unity in the sexual act is the decrease of the spiritual unity. This active decreasing of the biological unity is thus a sin against the dignity of marriage.

V. SOME OBJECTIONS

A) Natural Family Planning

Natural Family Planning (NFP) is a complex of methods for determining when a given woman is fertile, and thus when the sexual act is likely or unlikely to result in conception. NFP can be used both for help with conception and, if there are proportionate reasons, for avoiding conception by periodic abstinence during fertile times. It is the latter use with which I am concerned in this section.[23]

It might be objected that my arguments in the previous section militate not only against artificial contraception but also against the use of NFP for the sake of avoiding conception (even if proportionate reasons are present). After all, the Church regards as legitimate the decision of the couple to engage in sexual relations only during infertile periods, assuming of course that this does not contradict the duty of bearing children and that the

[23] With regard to the high effectiveness of the use of NFP to avoid conception, the reader is invited to consult R. E. Ryder, "'Natural Family Planning': Effective Birth Control Supported by the Catholic Church," *British Medical Journal* 307 (1993): 723-26.

decision is made for good and holy reasons; it can be objected, then, that by choosing to move the sexual act from a fertile time to an infertile time the couple is making the act less fertile and is thus signifying a decrease of unity.

But this is not the case. There is, strictly speaking, no such thing as moving the sexual act from one time to another time. A human act is unrepeatably defined temporally. A sexual act on Monday and a sexual act on Friday are two different acts. The act of abstaining from the sexual act on Monday and of engaging in a sexual act on Friday is not an act of transferring the sexual act from Monday to Friday, because it is a logical impossibility, strictly speaking, to transfer a specific act. The unrepeatable Monday-sexual-act cannot be moved to Friday any more than one can move the Monday itself to Friday. Thus, the use of NFP in this case simply consists in an abstention on Monday-and there is no sin in abstention by mutual agreement-and in relations on Friday. There is also no sin in the relations on Friday, assuming mutual agreement and assuming the act is still the biologically integral act of genuine sexual union. Even though on Friday the couple is infertile, nonetheless the united man-woman organism, on a biological level, continues to strive towards procreation as its end, insofar as it is able, though in fact it will not attain this end. The organic union is a union in a single action, an action of striving in the direction of the end, and not just an action of attaining the end.

In fact, the biological union does not even require the couple consciously to will the striving towards reproduction. The biophysiologically united man-woman organism instinctively and automatically on a biological level strives toward that end. What is required is only that the couple should not place an obstacle in its way, because the act of placing the obstacle is an act of disturbing the union. The act of contracepting is opposed to the end of the teleological process by which union is constituted.

A distinction between *permitting* and *causing* is relevant here. The couple that contracepts is the intentional cause of their infertility. The NFP-using couple, when infertile, is not the cause of the infertility: the natural cycles of the female body are the

cause of the infertility, which cycles are independent of the couple's decision to use NFP. The couple permits the infertility, and draw good from it, even though it would be wrong for them directly to will this infertility. That the distinction between permitting and causing is a significant one can be seen in at least two other examples. One is the distinction between letting die and killing, often discussed in the context of euthanasia. The other example is that of thcodicy. God never causes an evil. However, in order to draw a greater good out of it, He sometimes permits evils. The greatest and dearest example of this was the crucifixion. God did not cause Judas to betray Jesus and Pilate to condemn Him, but He permitted it, in order to bring a greater good out of it. It is essential to the way that sexual union as one body is constituted that while willing the union one not simultaneously unwill the end (reproduction) the biophysiological striving towards which constitutes the union. However, it is not necessary that one explicitly will this end, only that one not will anything contradictory to it. The implicit willing of the unitive meaning of the sexual act, in the absence of a contradictory willing, suffices to make the teleological striving that constitutes the union be a willed striving-and hence a striving of the person, and not merely of the body, thereby effecting a willed personal union. [24]

Finally, NFP can be considered to consist in "abstinence with bonuses." The couple engaging in NFP, having proportionate reasons to delay the having of children, chooses to abstain from sexual relations. However, the methods of fertility monitoring involved in NFP tell them that this abstinence is unnecessary at certain times (the infertile times), so that during those times the couple can engage in marital relations. At no time is there direct contraception: when the couple is abstaining, evidently they are not contracepting, and when the couple is not abstaining, they are also not contracepting, but simply permitting the body's involuntary infertility.

[24] This distinction between a striving of the body and a striving of the person is closely related to St. Thomas Aquinas's distinction between an act of a human and a human act.

B) What Is Better: Abstention or Contraception?

Another reply that can be made to my argument against contraception is that although when a contracepting couple acts to decrease the fertility of their sexual act the biological union may be decreased, nonetheless it is less decreased than when the couple actually abstains from the sexual act. Insofar as the act is understood to be one of biological union, considered purely as an involuntary act of the body (and not an act of the person nor a human act), this might have a ring of truth to it.

However, one must remember that the biological union signifies the spiritual union, and under these circumstances it is this spiritual union that is highly relevant. The claim that despite contraception's decreasing of the fertility of the sexual act the biological union still effects more spiritual union than can be effected in a time of abstinence is flawed, because it neglects to analyze the specific act of decreasing the fertility of the sexual act. This is in and of itself a human act. It may involve swallowing a certain pill. It may involve performing an unnatural sexual act, for example, *coitus interruptus* (one should put the use of a condom in this category). Consider first the latter case. Unnatural sexual acts such as *coitus interruptus* do not produce a biological union, because in them there is no united organism striving towards reproduction as an end. The argument for contraception fails in this case, as then there is no biological union at all. But there is a semblance of a biological union, and this semblance is thus a deceitful "union," and hence is not an expression of spiritual union.

Consider now the first case, where the fertility of a natural sexual act is deliberately modified, for example, by the swallowing of a pill. It is not so much the sexual act that is to be considered but the act of swallowing the pill. Suppose that a person swallows a pill in order to make future sexual acts less fruitful.[25] The act of swallowing the pill is nothing else than the

[25] The restriction "in order to make future sexual acts less fruitful" is important. It is in principle possible for a person to take medication for a serious medical problem even if this medication will, as an unintended side effect (i.e., without this side effect being the means to the resolution of the medical problem), render the person infertile.

act of decreasing the successfulness of the striving of the man-woman organism in its action directed at its appropriate end. Thus, the act of swallowing the pill is an act directed against the biological union of the husband and wife, and thus also against the spiritual union effected in and through the biological union. Hence, the act of swallowing the pill is a sin against the dignity of marriage, since the act's natural significance is biologically *anti-unitive*, and hence the act is intrinsically evil. Abstaining, on the other hand, is biologically inert and intrinsically without moral significance. Not being a consequentialist (cf. Rom 3:8), a Christian would conclude that a non-action (i.e., abstinence) is better than a combination of an intrinsic evil (swallowing the pill, thereby acting against unity) with the good of limited union. [26]

C) Unity and Pleasure

The most serious objection to my argument, however, would be that there is a possibility of an organic union where the end of the united striving of the organism is not reproduction but unity itself or pleasure. Consider first the case of unity. I have claimed that an organic unity is constituted through a cooperation in the direction of a common end. This common end cannot be the unity itself; there is a circularity in the idea that unity is attained in striving in the direction of unity. Also, the unity attained by striving at an abstract unity, is after all, only an abstract unity. But if one strives at a concrete unity, then this concrete unity must be a unity in some concrete action of the whole, an action that, on the pain of circularity, cannot be just the action of striving at unity.

More difficult is the suggestion of a united striving at *pleasure.* Can the man-woman organism be constituted as an organism through a striving at pleasure as at an end? Suppose first that the

[26] One might compare the situation to the case of a person who, for the sake of a great benefit, might be asked to perform an action intrinsically directed against the union of love: for example, to assert "I hate you" to a person he loves. However great the benefit, even if the benefit is one that will accrue to the beloved, such an act against loving union is not justified-it is intrinsically evil (not only because *lying* is intrinsically evil, but even more because the act is directly against the nature of love).

answer is yes. Does it even then follow that one can use artificial contraception? The striving at reproduction as at an end is still a part of the biological union. Therefore, an act designed to decrease the reproductive capacity of the sexual union still decreases the level of the biological union and signifies that the couple wishes to decrease their level of spiritual/personal union. What does follow, if we admit that the organism is constituted as an organism through a striving at pleasure, is that just as one may not strive to decrease the fertility of the act, neither may one strive to decrease the inherent pleasure of the act. Thus, if there were a drug that would render the sexual act unpleasurable, it would be unlawful to take it (at least with this goal in mind). [27] Note, however, that pleasure as an end is not transcendent, while reproduction as an end is transcendent (i.e,, goes beyond the man and the woman). Therefore, if there were an act that increased pleasure by simultaneously decreasing fertility, this act would still, it seems, be unlawful, insofar as the transcendent end contributes to a more exalted union, a union closer to the spiritual or personal union, and thus the act may not be modified in its disfavor.

In fact, I would argue, pleasure is not an end in itself. Pleasure is a good essentially concomitant with other goods. To seek pleasure as an independent end in and of itself is simply selfishness, and is akin to the sin of gluttony. Someone could counter this with the rhetorical question: "But what if each seeks the pleasure of the spouse?" Yet this does not settle matters. For the man-woman organism *ex hypothesi* would still be, *qua* organism, seeking its own pleasure, since the man and woman are part of the same organism. Thus, while the husband on his own might not be selfish and the wife on her own might not be selfish, the man-woman organism would, considered as a whole, be intrinsically selfish and its unity would consist in its selfishness. A unity in selfishness does not lead to any deep spiritual unity; it only separates the husband and wife from a third Being involved in the act, namely, God. Neither can the husband and wife hope

[27] If the drug had other, beneficial properties, and the rendering of the sexnal act unpleasurmle was not the end at which the users of it strive, then the principle of donhle effect could allow its use.

to use pleasure as a means to the end of organic unity at a biological level. For then the man-woman organism has as its final end precisely the organic union itself, and this is, as discussed before, circular, since the organism is allegedly united in the union of striving for its union (rather than for another end).

One might also accept Aristotle's view that, normatively, the feeling of pleasure is the perceiving of an apparent good.[28] Pleasure thus has an intentionality in it, a signifying of a good, much as the *quale* of green signifies a green thing. Pleasure, like any other mental representation, derives its significance from what it represents. The good of pleasure thus derives from it being a representation, a perceiving, of something good. (This also shows that there are cases of pleasure that are not good: these are the nonveridical pleasures, pleasures that are representations of goods that are not real.) At the pain of circularity, the pleasure considered as such must be notionally distinct from that good. Hence, pleasure should not be an end in itself, since its good is derivative from that good which is represented by it. The latter good could be an end, but not the pleasure itself. Without the good that the pleasure represents, the pleasure has no truth or goodness in itself but only an illusory semblance of a good. Thus, pleasure may not serve as the end that unifies man and woman into one body, one organism. The good the pleasure represents could perhaps serve as that end, but then one comes to the question of what this good is.[29] Given the centrality of union in the phenomenology of the sexual act, it is reasonable to suppose that the good that the pleasure represents is the good of *union.* But I have already argued above that this good cannot be the end by striving towards which the bodies are unified, since that would be circular. Alternately, one might propose that the good that sexual pleasure represents is the good of reproduction. But if this is so, then the defender of contraception certainly cannot use the pleasure-based argument! Biologically, there do not seem to be any other basic ends

[28] "To feel pleasure and to feel pain is to exercise the perceptual mean in the direction of the good or bad" *(De Anima* 3.6.431a10-11, my translation).

[29] The argument in this paragraph is related to John M. Finnis's discussion ("Personal Integrity," 176-77) of the "experience machine."

available that respect the significance the reproductive organs involvedo One might, as a last resort, propose that the good of the other person is perceived in sexual pleasureo[30] It is probably true that, phenomenologicaUy, this good can be perceived in the sexual pleasureo However, a striving after this good cannot ontologicaHy unify the man and woman into a single organism at the biophysiological level, since the perception of the good of the other person subsists at the mental/spiritual level. Moreover, the phenomenology of the act requires that the good represented by the pleasure not be simply a subsistent good as such (as the good of the other person would be), but a good that is at least partially brought about by the sexual act3[1]-sexualiity is not merely epistemic [32]

Alternately, and perhaps even more convincingly, to counter the argument that pleasure could be that end of sexual activity which brings about union as one body one might focus more on the question of the transcendence of endso For a finite organism to be truly something more than it is in its aloneness, it must have a transcendent end for its actiono[33] If the organism is united in striving for a nonttanscendent end, then its members are not united in a genuine union but in a clique. H the Church were to

[3°] Cf. Martha Nussbaum's emphasis on the epistemic in sexual activity in her discussion of "a desire in which sexual and epistemological need are joined and, apparently, inseparable" (The *Fragility of Goodness: Luck and Ethics in Greek Tragedy and Philosophy* [Cambridge: Cambridge University Press, 1986], 190).

[31] Suppose someone says in reply to this: "But the good that the sexual pleasure represents is the good of the other *as involved in the sexual act.* This good is indeed brought about by the act. So, why cannot the union as one body be effected by seeking this good?" The answer is that this is either circular or gains my opponent nothing. The involvement in the sexual act is a good only insofar as it is unitive and/or procreative. If the good of the other person as involved in the sexual act is the end which unites the couple (actually, it would be two ends, the couple having two "persons" in it), then the couple is united by striving towards either (a) union or (b) procireation. In case (b), things are exactly as I have argued they are, and the quoted suggestion gains my opponent nothing. In case (a), on the other hand, the argument is circular.

[32] Nor does Nussbaum (The *Fragility of Goodness)* imply that it is, but only that the epistemic is inseparable from the nonepistemic in sexuality.

[33] The restriction "finite" is used here because of course God does not need [2ID] end outside Himself, since He is the Infinite, and thus an end outside Himself would only be limiting Him. The difference is that for a finite organism, what is outside the organism is what delimits the organism. But God delimits what is outside Him, and what is outside Him in no way delimits Him.

seek herself, she would be but a clique, closed to the outside, indeed closed to God the Father. A finite organism the end of whose action lies within itself is a selfish organism, and thus is lonely in its closed finitude. Even if a billion people were to unite in striving for some closed end, say for the pleasure of this billion, the people would be united in loneliness, for even though they would be together, still taken as a whole they would be alone. Adam was given Eve that he should not be alone. But suppose that they united themselves to each other and completely omitted all outside ends of their union. Their union would simply transfer the loneliness of one finite being, Adam, into the loneliness of a finite composite being, the Adam-Eve organism.

Thus for unity not to be cliquishness, for a unity to be a *genuine* unity, it must be constituted in an action directed at an end outside the limits of those finite beings who are united. Pleasure fails to achieve this transcendence, and thus any unity attained by it is imperfect at best. The sexual act is by nature a central act constituting the unity of the husband and wife. If this becomes changed into simply a pleasure, then the union ceases to be transcendent, and moreover the message between the husband and wife is that their union is dependent on pleasure-and this decreases the spiritual and personal union, since a real spiritual and personal union is independent of such things as pleasure or pain.[34]

Moreover, organic unity in striving in the direction of reproduction is a unity at a biological level, and thus is more true to the physicality of the sexual union. Pleasures are intrinsically events at the mental level;[35] their reality as pleasures consists in being consciously observed.[36] A pleasure that one is not conscious of is not a pleasure-how can it be pleasant if it is not pleasant *for* the person experiencing it? There are no unfelt pleasures or pains. Thus, a united striving at pleasure is a striving at an end subsisting

[34] Compare how spiritual union with God according to St. John of the Cross is notionally independent of feelings, even though, of course, feelings can at some stages accompany it.

[35] If the argument of this paragraph is read carefully, it will be noted that it does not presuppose substance dualism but merely a nonreductionism of the mental. The argument would be compatible with a supervenience of the mental over the nonmental.

[36] More precisely, pleasures as pleasures subsist at the level of *qualia.*

not at the biological level but at the mental level. Hence, what is effected by striving the direction of pleasure is at most a union on a mental leveL But this neglects the ontologically and phenomenologically essential character of sexual union as a physical (or, more precisely, biological) union. Union for the sake of pleasure is thus union at the wrong level. Of course it could be objected that there are some neurophysiological correlates of pleasures in the brain, [37] and that the united striving is directed at these correlates. Yet, first of aH, it is not dear that this is a correct description of the biology involved-as a biological fact, it seems that the sexual act is not a striving at these neurophysiological states, but a striving in direction of reproduction, with the neurophysiological states being side-effects (which may have a motivating role for the agents, of course-this need not be denied). But leaving aside this objection, those neurophysiological states (firings of neurons, etc.) which are correlated with the pleasures are in themselves rather insignificant. Their significance derives only from their correlation with the mental events of pleasures-and these mental events, being cannot constitute a union at the biophysiological level, as already stated.

VI. BASIC CONCLUSION

the following principle has been argued for on the basis of an analysis of the sexual union's character as a union one flesh and one body: *For a genuine union between husband and wife, the sexual act cannot be modified in order to decrease its natural fruitfulness.* The unity is not wrought by pleasure or a mingling of members, through an organic union whose action is a striving at reproduction as an end, even if this end is unattainable at times. It is worth noting that even when the end is unattainable the striving for the transcendent end on a biological level naturally also signifies striving for a transcendent end at the spiritual level. For no human being is

[37] No claim is made in this objection that the pleasures supervene on these neurophysiological correlates. It could be that what supervenes on these correlates does not exhaust the whole reality of the phenomenon of pleasure which may have mental components.

exempted from the spiritual call to procreation, in the sense of bringing people into the kingdom of God, multiplying the good in the world, etc. The transcendence in the reproductive end signifies this, and thus the couple becomes united not only by their physical organism seeking reproduction but also as human persons seeking to follow the spiritual call in common.

The relevance of the biophysiological issues to the spiritual union of husband and wife, and the Church's insistence on these biophysiological issues, shows, one may note, the falsity of the common claim that the Church looks down on the body with disgust; on the contrary, the Church sees the body as an integral part of the person, as an essential part of the human being's humanity, and sees that the actions of the body bear spiritual meaning. Those who separate the respective meanings of the biophysiological act and of the spiritual union are engaging in a false dualism.

VII. EXAMPLES

Unnatural sexual acts *(coitus interruptus,* masturbation, homosexual acts, bestiality, etc.)[38] do not contain any union on a biological level; there is no common striving of a united organism on the biophysiological level for an end. At the very best there might be a striving for the nontranscendent end of a common pleasure, which, instead of effecting a genuine unity, isolates those involved in the act by making them into a clique.

The use of various means to decrease the natural fertility involved in given sexual acts signifies a desire to hamper the united striving of the man-woman organism, and as such cannot but hamper the spiritual union between the husband and wife. However, the use of Natural Family Planning, which involves abstinence at fertile times and sexual activity at infertile times, does not decrease the natural fertility in any given act; the act performed at an infertile time would be infertile even if there

[38] It is worth noting that all these acts are basically the same (e.g., homosexual acts are essentially equivalent to two persons cooperating in masturbation). Thus, on a nan1ral-law level, if any one of these acts is wrong it follows that all the others are wrong as well, since the distinctions between them are accidental from a moral point of view.

were no NFP involved. The infertility is permitted by the NFP-users, but not caused by them.

Sexual acts outside the context of marriage (adultery, fornication, masturbation, bestiality, etc.) are also contrary to the natural binding characteristics of the sexual act, as has been discussed.

There is a certain popular perception that the Church has a long list of prohibitions of sexual acts. The fact of the matter is that the good is one, but the distortions are many. The proper use of the sexual faculties is a sexual act between a freely consenting husband and his freely consenting wife without the act being intentionally impeded from its natural fertility.

Perhaps the clearest illustration of the issue of organicity is the condom. This device places a latex barrier between the husband and wife. It is evident that an organic union cannot exist where the flesh of the organism is parted in two by a latex barrier. The act of using the condom is thus, on a physical level, nothing else than the act of introducing a material barrier between the husband and wife. But because of the integrality of the human person as comprising body and soul this act can do nothing else than introduce a spiritual/interpersonal barrier as well. How can the man-woman organism be objectively united in a single act if there is a piece of latex keeping the two from essential contact? Coming back to the example of the severed finger, I have already noted that if a latex barrier is placed between the finger and the hand to which it is reattached, obviously the finger will not thrive and will not return to being a part of my organism. But it must be noted that the real reason why the use of a condom is wrong is that it is contrary to the organic nature of sexual union, which is a union in striving for the end of reproduction. Canon 1061.1 appears to imply that a sexual act involving a condom does not of itself constitute valid consummation of a marriage. The above considerations show that this teaching is reasonable.

VIII. FINAL CONCLUSIONS

It has been seen that true organic unity of the kind that is involved in the *one flesh, one body* character of sexual union can

only exist through the biological-level striving for reproduction, a striving that exists even when it does not succeed.[39] It is the biological level that effects the unity. It is not always necessary for the couple consciously to will the end of procreation; a unitive intention suffices;[40] nor is it necessary for the couple to be engaging in the sexual act at a fertile time. All that is necessary is that they not have hampered this end in this sexual act; their ontological unity as one body will then be effected at the organic level. The emphasis of this paper is on the reality of union, a reality that must be physical to do justice to the phenomenological significance of the sexual act. Thus this paper can be seen as an attempt to recover an understanding of the physicality of the sexual act, which, paradoxically for an age such as ours, has been lost sight of. That the sexual act is of itself unitive is not a matter of social convention or psychological feelings-the act is physically unitive, uniting the persons on a physical level in and through an ontologically real striving in the direction of reproduction. It is thus an act eminently appropriate to union between human persons since human persons are *embodied.*

One way to present the central matter at issue in the present paper rather graphically is to ask what is the essential ontological difference between the sexual act and an intrinsically morally neutral act such as a man sticking a finger in his wife's ear. The present paper's answer-which I submit is ultimately the only fully ontologically and phenomenologically satisfactory answer-is that the difference is that the sexual act, as opposed to the finger-in-ear act, involves the same physiological faculties as are involved in the highly significant function of procreation. The sexual act thus has an intrinsic biological meaning inherited from its connection with procreative acts.[41] The phenomenology of the

[39] Or even when, for example, due to *involuntary* infertility, it cannot succeed, since even in infertile or postrnenopausal couples there is a striving at the biological level for procreation, though this striving may be namrally damaged.

[40] The unitive intention implicitly wills a striving in the direction of procreation, though it does not necessarily directly will the attainment of that end.

[41] The observation that biological facts have such significant meanings is one that may be difficult to accept for persons with Humean views of the physical world as morally inert, persons who think that value is conferred on biological processes only by the convention of society or by individuals. On such views, there could not be an intrinsic difference between

sexual act requires that it have objective significance, that it be in the highest degree real, and not simply a projection of human values on a morally inert nature. If the sexual act were simply such a projection, then the finger-in-ear act could, conceivably, become as significant unitively as the sexual act. However, this would be false to the idea of the sexual act as the deepest form of natural physical union possible for human beings.

A love that does not seek real unity (as opposed to, say, a mere feeling of unity) is not love. A desire for unity is a part of all love, though the various forms of love (marital, filial, fraternal, friendly, etc.) all have different kinds of union proper to them. Love essentially involves a striving after a good. A love that does not strive after a good is not love, but a lust or a hatred. Sexual acts between persons not united in sacred matrimony signify something that is not present; they do not promote any good proper to such acts, because the proper goods they could be promoting are (a) the good of unity-and yet there is no relevant, real unity on a spiritual/personal level possible here-or (b) that of procreation, which is unacceptable outside marriage since children call for an environment of absolute committed love between the parents. On the other hand, deliberately hampering the natural fertility of sexual acts between a husband and wife is acting against the goods of both union and fertility, and as such is not love but a species of lust or even of hate (for surely an act directed against unity is in some way an act of hate).[42] Sexuality is, above all, to be an expression of love, naturally fruitful and unitive.[43]

the moral significance of the sexual act (at least at infertile times) and the finger-in-ear act. However, such Humean views fly in the face of the assurance in the first chapter of Genesis that the world even before the creation of human beings was *good*, and hence certainly not morally inert. The Book of Genesis presents us with a world that has innate value; the value is enhanced by the world's interaction with human beings, but is not constituted solely by this interaction.

[42] Note the wording: It is not *per se* the sexual act after having, for example, swallowed oral contraceptives that is directed against union, but the act of using the contraceptive (e.g., the act of swallowing) which is directed against union and sinful.

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CANTOR'S TRANSFINITE NUMBERS AND TRADITIONAL OBJECTIONS TO ACTUAL INFINITY

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Georg Cantor was one of the most prominent mathematicians of the late nineteenth and early twentieth centuries. His development of a theory of transfinite numbers resurrected philosophical questions about infinity and led to a division of mathematics into schools of thought such as formalism and intuitionism. Cantor's published attempts to justify his mathematical theories were directed not only toward the mathematicians of his day but also toward philosophers, both ancient and contemporary. His efforts on the latter front were rooted in his desire to deal with objections to the very idea of the actual infinite in quantity, and he attached great importance to those objections that came from traditional philosophy .[1] I intend to review the basic philosophical issues: Cantor's claims to a workable mathematics of real and actually infinite quantities, his response to Aristotelian objections to those claims, and my reflections on whether Cantor finally settled the matter, as he had hoped.

[1] I shall focus upon Cantor's philosophical defense of transfinite numbers against this fundamental Aristotelian position as it is found in part 5 of his "Ueber unendliche, lineare Punktmannigfaltigkeiten," *Mathematische Annalen* 21:545-86 (published separately as *Grundlagen einer allgemeinen Mannigfaltigkeitslehre. Ei11 mathematisch-philosophischer Versuch in der Lehre des Unend.lichen*[Leipzig: B. G. Teubner, 1883], hereafter *Grumilage11).* Cantor saw Aristotle as the source of the Scholastic position on infinity, and in the *Gnmdlagen* he addressed the basic error involved in all 'finitist' reasoning, as he saw it. A few years after writing the *Grundlagen,* Cantor published papers dealing with specific Scholastic arguments against the actual infinite in detail. For example, see Robin Small, "Cantor and the Scholastics," *American Catholic Philosophical Quarterly* 66 (1992): 407-28, where the question concerns the eternity of the world.

Cantor was well aware of the prevailing mathematical and philosophical climates of his day.[2] As he drew nearer to a completed theory of transfinite numbers, he became increasingly interested in justifying it, not only as a consistent and practical[3] exercise of mathematical thought, but also as one having a basis in the real world,[4] as somehow providing as real a view of the natural world as did the relatively unproblematic theory of finite integers. While other mathematicians seemed unconcerned with such metaphysical questions, Cantor devoted much of his time and effort to addressing them, especially later in his life.[5] Ironically, Cantor's fascination with these metaphysical aspects of the theory, so foreign to his contemporaries in mathematics, turned out to be somewhat prophetic, since the dubious *ontological* character of transfinite numbers was to figure prominently in later developments in mathematics.[6]

I will begin by giving an overview of Cantor's transfinite number theory, focusing in particular upon his claim that transfinite numbers possess an objective, or real, infinity which is actual, not merely potential.[7]

I. SUMMARY OF CANTOR'S TRANSFINITE NUMBER THEORY

Cantor discovered that merely 'potential' infinity, the sort with which mathematicians were comfortable to that day, was not the

[2] See Joseph Warren Dauben, *Georg Cantor: His Mathematics and Philosophy of the Infinite* (Princeton, N.J.: Princeton University Press, 1979), 120-22.

[3] As he notes in *Grundlagen,* § 8, the success in application of a mathematical concept is a major factor in whether it is accepted as legitimate or abandoned.

[4] Cantor meant atleastthree things by 'real number': 'real' as distinguished from complex, rational, or irrational numbers; 'real' as existing in the understanding, as consistent and definite ideas in the mind; and 'real' as existing in the extramental world. Cantor held that all numbers that are real in the second sense are images of those that are real in the third sense. For more on the distinction between the last two types of reality, see *Grundlagen,* § 8. See also Dauben, *Georg Cantor,* 125-26.

[5] Though many of the mathematicians of his day were able to look past Cantor's concern with the philosophical and theological implications of his transfinite theory (and in this way many came to defend the theory), to Cantor they were an inseparable part of his intellectual life and eventually became the main focus of his thoughts, while mathematics later took on a less important role. See especially Dauben, *Georg Cantor,* 297-99.

[6] *Grundlagen,* §§ 1, 8. See also Dauben, *Georg Cantor,* 125-26.

[7] The following section is a summary of the argument presented in the *Grundlagen.*

only infinite that warranted their scrutiny. He saw the potential infinite, which he called the 'ideal' infinite, primarily in the instance of a variable that is allowed to increase or decrease without limits. Such a quantity, said Cantor, is at any point still finite.[8] He contrasted this sort of infinite to the actual infinite, which he first compared to the instance of an infinitely distant yet definite point. He then applied this first analogate of actual infinity to the transfinite numbers, initially the infinite ordinals. Unlike the variables mentioned above, and like the infinitely distant point, he claimed, these new numbers are fully determinate, yet infinite. Nor do they behave as finite series or potential infinities do: in fact, they appear to have very different relationships to each other, and are partially subject to different mathematical laws in these relationships.[9]

Cantor's discovery amounted to this: though one might think that there could only be a single actual infinity (if any), namely, the 'many-without-limits' (since all infinites would seem to be equivalent in number), nevertheless it is possible to distinguish various infinities from one another. Crucial to his theory was that there are many arithmetically distinct infinities. Equally important for Cantor the mathematician was the actual construction-proof of these diverse infinites.[10]

Cantor used three 'principles of generation' to create the transfinite numbers.[11] The first principle is simply the adding of a unity to a given integer, by means of which any finite integer can be created. When he considered the unending series of finite

[8] *Grundlagen,* § 1. It is on account of its being always finite that various renderings are given for Cantor's name for the 'Uneigentlich-unendlich', such as the 'false' infinite (Robin Small), the 'improper' infinite Uoseph Dauben), or even the 'non-actual' infinite.

[9] Ibid. See also Dauben, *Georg Cantor,* chap. 6.

[10] One must remember that this 'construction' cannot be the actual creation of numbers for Cantor, but rather a method for their discovery. A mathematical realist of a Platonic sort, Cantor held that the transfinite numbers already exist in the divine intellect. See Small, "Cantor and the Scholastics," 408 n. 7; and Dauben, *Georg Cantor,* 228-29.

[11] *Grundlagen,* § 1. The actual application of these principles of generation and the creation of the number classes occur in § 11. Similar accounts of the generation of such numbers can be found in Bertrand Russell, *Introduction to Mathematical Philosophy* (London: George Allen & Unwin, 1919), chap. 9; and David Hilbert, "On the Infinite," trans. E. Putnam and G. J. Massey, in *Philosophy of Mathematics,* ed. Paul Benacerraf and Hilary Putnam (Cambridge: Cambridge University Press, 1983), 191.

integers (I), however, Cantor realized that the number of members in this class is infinite, and there is therefore no greatest number in the series. These observations led him to the 'second principle' of generation. As he says:

However contradictory it might be to speak of a greatest number of class (I), there is nevertheless nothing offensive in thinking of a *new* number which we shall call w, and which will be the expression for the idea that the entire assemblage (I) is given in its natural, orderly succession. Gust as v is an expression for the idea that a certain finite number of unities is united to form a whole.) It is accordingly permissible to think of the newly created number w as the *limit* to which numbers v approach, if by it nothing else be understood than that w is the *first* integer which succeeds all numbers v, that is, it is to be regarded as greater than every one of the numbers v.[12]

If one conceives of the series of finite integers-not of any single integer (for each is finite) but of the set as a whole-the limiting number of this series must be greater than any one of them. But since any integer in such a set is finite, that which is greater than any such number must be infinite. And in this way is derived the first infinite ordinal number, *w*. It is both "the first integer which succeeds all numbers v" and "greater than every one of the numbers v."[13] The process of producing the number *w* is radically different from the process of 'adding a unity' first mentioned. Cantor defined the new method in this way:

If any definite succession of definite real integers is given for which no greatest exists, a new number is created on the basis of this second principle of generation, which is to be thought of as the limit of those numbers, that is, to be defined as the *next greater* number to all of them.[14]

[12] Georg Cantor, "On Infinite, Linear Point-Manifolds," in *Transfinite Numbers: Three Papers on Transfinite Numbers from the Mathematische Annalen,* trans. George A. Bingley (Annapolis, M.D.: Classics of the St. John's Program, 1942), § 11, pp. 131-32. Cantor's own note here states: "The symbol ∞ which I used in Number 2 of this series of articles (Vol. XVII, p. 357) is hereby replaced from now on by w, since the sign ∞ has been frequently used as a symbol of indefinite infinities."

[13] Ibid., 132. Note that w is defined as a number that succeeds all finite integers and that it is not itself a member of that set.

[14] Ibid.

Given a definite and unending sequence of integers, then, the generation of a limiting integer is warranted, which integer must itself be not finite, but infinite (and therefore clearly not a member of that series).

At this point, however, Cantor had shown merely that the limiting number for the set of all finite integers is an infinite number he called *w*, something that could be easily confused with the potentially infinite, symbolized by co. To show that *w* really differs from co, Cantor had to prove that it is a *definite* number, standing in relation to other definite numbers of the same sort, and governed by certain arithmetical laws.[15] In short, Cantor had first to show that there are other numbers like *w* (that is, infinite numbers) that are clearly distinguishable from it.

Having produced the first infinite number *w*, Cantor then applied the first principle of generation, creating $w + 1$, $w + 2$, and so on: a series of *infinite* integers of which there is no greatest. Further, since the conditions of the second principle were met yet again,[16] a new number was created, 2w, at which time the first principle of generation was applied once more, yielding: $2w + 1$, $2w + 2$, and so on.[17] Cantor, then, had not only provided a means for generating infinite numbers, he had also created numbers that themselves fell out into distinct groups, or classes. Cantor called these the 'first' number class, the 'second' number class, and so on, the first number class being (I), the unending series of finite integers, the second being the unending series *w*, $w + 1$, $w + 2$, and so on, the third being 2w, $2w + 1$, $2w + 2$, and so on. He generated numbers within a number class by means of the first principle, and advanced to the next number class by applying the second principle of generation. The possibilities, Cantor admitted, are without limits.[18] And it appeared that not only were the new infinite numbers definite

[15] These conditions for distinguishing the potential from the actual infinite were laid out by Cantor in *Grundlagen,* § 1.

[16] Namely, there was a series of definite real integers of which there was no greatest.

[17] There follow in Cantor's account the generations of two new number classes, of which w^2 and w_w are the first members.

[18] Cantor, "On Infinite, Linear Point-Manifolds," 133.

integers (and so essentially *unlike* ω), but there were also infinitely many of them, all well arranged in their own proper classes.

Finally, Cantor had to demonstrate what he had insisted upon early on: that these various and distinct infinities are governed by mathematical laws that differ, at least in part, from the laws governing finite integers. This applies even to the fundamental and intuitively certain laws of association and commutation. So, as he noted, for finite numbers, the commutative law for addition ($a + b = b + a$) holds without exception, whereas it does not hold for infinite quantities. For instance, $1 + w$ does not equal $w + 1$: for $1 + w = w$, while $w + 1$ is the second of the infinite ordinals, (as we have seen). The associative law for addition [$a + (b + c) = (a + b) + c$], however, holds for both finite and infinite numbers. Similarly, the commutative law for multiplication ($ab = ba$) holds without exception for finite numbers, whereas it does not hold for infinite numbers. The associative law of multiplication [$a(bc) = (ab)c$] holds for both types of number. [19]

With these series of real integers, finite or not, Cantor associated a number of a different sort, and a theory of finite and infinite *powers* of the classes so created was developed. [20] The notion of infinite powers, unlike the w numbers, corresponds to the size or quantity of such sets, independent of the ordering of the elements. Two sets are said to have the same power, so defined, if their elements can be placed in a one-to-one correspondence with each other, independently of their ordering.

Cantor then went on to note that the power of a finite set is the same as its ordinal number, despite the ordering of its elements. However (and in this Cantor identified what he believed to be the essential difference between finite and infinite sets), among infinite sets, the ordinal number of the set changes depending upon the ordering, even though its power remains the

[19] *Grundlagen,* § 3. Other surprising differences between finite and infinite arithmetic are documented in Russell, *Introduction to Mathematical Philosophy,* chaps. 8 and 9, especially pp. 86-87 and 94-95.

[20] *Grundlagen,* § 1. Cantor seems to have meant by 'power' what we mean by 'cardinal number'.

same.[21] For example, suppose the set of finite real integers (1).[22] The ordinal number associated with this set will vary depending upon the principle of order used. To the set of finite real integers: 1, 2, 3, ... v, ... corresponds w, the first infinite ordinal. However, to the set of finite real integers: 1, 3, 4, ... v + 1, ... 2 corresponds $w + 1$, the second infinite ordinal. Similarly, to the well-ordered set of finite real integers: 1, 3, 5, ... v, ... 2, 4 corresponds $w + 2$, and so on. Depending upon the order of its elements, the same infinite series can be measured by several different infinite ordinal numbers. Yet any ordering of the elements of this series will result in the same *power*. An infinite power, in Cantor's sense, corresponds to our own notions of an infinite cardinal number, of which N.0, the power of the set of all finite integers, is demonstrably the least. In addition to the infinite ordinal numbers, then, are the infinite cardinals.

Cantor next pointed out that a set having the power of one class (say, the class of finite integers) would have ordinal numbers belonging to the next higher class (in this case, w, $w + 1$, $w + 2$, and so on). Not only are there many distinct infinite numbers, and distinct classes of infinite numbers, as well as arithmetical laws that partially differ from those of finite numbers, there are also different types of infinite numbers altogether (ordinals and cardinals), themselves having definite relationships to one another.[23] Cantor had provided the mathematical community with more infinity than they could possibly have expected.[24]

[21] Ibid., § 2. In fact, said Cantor, the set can be given *a71)1* of the ordinal numbers of its corresponding number series simply by changing this principle of ordering: "Every set whose power is of the first class is countable by numbers of the second number class and only by such, and it is always possible to give the set a succession of elements that is countable by any arbitrarily chosen number of the second number class" (Cantor, "On Infinite, Linear Point-Manifolds," § 2, p. 98).

[22] Cantor noted that the set must be 'well-ordered', that is, there must be a first element in the set, and every other element (excepting, perhaps, the last) must followed by a determinate element, which is next.

[23] *Grundlagen*, § 2. For more detailed summaries of these relationships and their significance, see Russell, *Introduction to Mathematical Philosophy*, esp. chaps. 8 and 9; Hilbert, "On the Infinite"; and Dauben, *Georg Cantor*, esp. chaps. 4 and 5.

[24] Hilbert once described transfinite numbers as the "paradise which Cantor has created for us." See note 29 below.

Mathematicians had varied reactions to Cantor's claims, from Bertrand RusseH and David Hilbert, who defended them, to Ernst Kronecker [25] and Henri Poincare, who strongly opposed them. [26] As we noted above, Cantor was very well aware of the objections his theory of transfinite numbers would inevitably raise among mathematicians and philosophers alike. Despite the sympathetic hearing of mathematicians of note, Cantor seemed to think that the philosophical objections simply had to be addressed. Though he maintained that this justification of transfinite numbers is not a specifically mathematical obligation, he felt compelled to provide it the same. [27] The philosophical questions, Cantor saw, were of the greatest importance even for mathematics. truth, as the implications of Cantor's work became dearer, Gottlob Frege noted that the issue would result in a damaging conflict within mathematics itself:

> Here is the reef on which it [mathematics] will founder. For the infinite will eventually refuse to be excluded from arithmetic, and yet it is irreconcilable with that [finitist] epistemological direction. it seems, is the battlefield where a great decision will be made. [28]

As the objections began to surface, other mathematicians the fray. Frege's analogy of a battle was becoming all too true. Most famous, perhaps, is David Hilbert's war-cry: "No one shall drive us out of the paradise which Cantor has created for us." [29] It is to his credit that Cantor anticipated the revolutionary character of his discoveries. It remains to be seen whether he would successfully address the very root of many of the objections to his theory, Aristotle himself.

[25] Kronecker was Cantor's contemporary and a noted 'finitist' mathematician. Apparently, Kronecker's criticism of transfinite theory was instrumental in leading Cantor to write the more philosophical sections of the *Grundlagen.* Their ongoing debate concerning infinity was often quite acrimonious. See, e.g., Dauben, *Georg Cantor,* 13-138.

[26] Dauben, *Georg Cantor,* 1.

[27] *Grundlagen,* § 8.

[28] Quoted in Dauben, *Georg Cantor,* 225.

[29] Hilbert, "On the Infinite," 191.

II. CANTOR AND ARISTOTLE

In section four of the *Grundlagen* Cantor deals with certain difficulties associated with his theory of transfinite numbers. One is whether there is such a thing as the infinitely small; another is whether there really are numbers apart from the finite integers. It is the latter question with which I am directly concerned, since here are found the objections made by traditional philosophy to transfinite numbers: for traditional philosophy objects to such things on the grounds that they are not numbers, that 'number' properly so called describes the finite integers and nothing more. Cantor, well aware of the origins of his opponents' views, places his consideration of Aristotle here.[30]

Cantor first notes that some of those who deny transfinite numbers would admit the existence of the rationals, since they come directly from the integers and are expressed in terms of the integers.[31] He goes on to say, though, that traditional mathematicians are somewhat squeamish when it comes to the irrational numbers:

> The actual material of analysis is composed, in this opinion, exclusively of finite, real integers and all truths in arithmetic and analysis already discovered or still to be discovered must be looked upon as relationships of the finite integers to each other; the infinitesimal analysis and with it the theory of functions are considered to be legitimate only in so far as their theorems are demonstrable through laws holding for the finite integers.[32]

Though he does see some benefits to mathematics in such a view, Cantor finally discounts it as erroneous and overly restrictive.[33] Not all numbers, then, can be reduced to the finite integers.

[30] Once again, Cantor sees Aristotle's arguments against the actual infinite as the origin of the Scholastic principle *infinitum actu non datur*. See *Grundlagen,* § 4.

[31] The negative integers can be considered an extension of the integers, for example, by allowing subtraction in every case.

[32] Cantor, "On Infinite, Linear Point-Manifolds,"§ 4, p. 10.3 (I have substituted the word 'legitimate' for the word 'legalized' in Bingley's translation). Note that a relationship to finite integers is here taken as the source of mathematical legitimacy.

[33] Such a requirement does enable one to avoid what Cantor calls the 'dangers' associated with certain types of mathematical speculation, where 'anything is possible'. Yet it does so at the cost of being over restrictive. See *Grundlagen,* § 4.

Having raised the issue in this way, Cantor next takes up Aristotle himself. He cites book 11 of the *Metaphysics* as his reference for Aristotle's arguments against the infinite.[34] He specifically addresses two of Aristotle's arguments in the *Grundlagen,* and later deals with what he sees as the source of Aristotle's error.[35] The general problem, he claims, is that Aristotle begs the question-that he assumes that all numbers must be countable by means of finite numbers, and thereby proves that infinite numbers are not numbers. As Cantor says:

If one considers the arguments which Aristotle presented against the real existence of the infinite (vid. his Metaphysics, Book XI, Chap. 10), it will be found that they refer back to an assumption, which involves a *petitio principii,* the assumption, namely, that there are only finite numbers, from which he concluded that to him only enumerations of finite sets were recognizable.[36]

Apparently, Cantor is referring to Aristotle's argument that an actually infinite number is impossible, since every number, or whatever has a number, can be numbered.[37] Of course, the actually infinite cannot be numbered in this way: that is, one cannot enumerate the members of an infinite number one at a time.[38] This, says Cantor, is at the heart of finitists' arguments against the infinite: for they expect the infinite to have the same properties as finite numbers do.[39] To their credit, neither Aristotle

[34] Aristotle's arguments against the infinite in book 11 of the *Metaphysics* are excerpted from the last five chapters of book 3 of the *Physics,* his explicit treatment of the infinite.

[35] The arguments themselves are taken up in *Grundlagen,* § 4. The source of the difficulty is dealt with in § 6.

[36] Cantor, "On Infinite, Linear Point-Manifolds," § 4, pp. 104-5.

[37] Aristotle, *Metaphysics* 11.10.1066b26-27: dpt0µf]TOV yap 6 dpt0µoc; TO exov dpt0µ6v.

[38] The argument just given was excerpted verbatim from the *Physics* 3.5.204b8, where it is followed by: "Now if what can be numbered is able to be numbered, one will also be able to go through the infinite" (d o3v TO dp10µqTovtvl'llxnm dpt0µijom, Kat l'lLESEA0'ltvdv Elf] l'luvmov TO oompov). Thomas Aquinas expands the argument in his III *Physics,* lect. 8 (351): "Everything numerable can be numbered, and consequently is gone through by numbering; but every number, and everything which has a number, is numerable, and so everything of this kind can be gone through. If, then, some number were infinite (whether it be separate or existing in matter), it would follow that it is possible to go through the infinite; but that is impossible."

[3,] *Grundlagen,* § 6.

nor Thomas Aquinas takes the argument in question as having much weight.[40] In his comments on identical passages from the *Physics,* Aquinas says the argument is merely probable, since it does not have a necessary conclusion. Moreover, he anticipates what someone defending infinite numbers might say in response:

> These arguments are probable, and proceed from things which are commonly said. For they do not conclude of necessity: for ... someone who said that some multitude is infinite would not say that it is a number or that it has a number. For 'number' adds to 'multitude' the notion of a measure: for number is a multitude measured by the unit, as is said in the tenth book of the *Metaphysics.* And because of this number is said to be a species of discrete quantity, but not multitude, which pertains to the transcendentals.[41]

Cantor insists upon keeping certain elements of the traditional notion of number when speaking of his transfinite numbers, yet he dearly wishes to dissociate from them the fundamental notion of being 'able to be gone through', or of being enumerated in the traditional sense. Apparently Cantor sees Aristotle as allowing, among the principles of mathematics, Cantor's first principle of generation alone.[42] It would be no surprise, then, if one who adopts such a position would see infinity in quantity as essentially indeterminate and ultimately infinite in a merely potential way, as something similar to Cantor's 'ideal' infinity, mentioned above. If the transfinite numbers are in fact real, Aristotle's argument would certainly be subject to the charge of question-begging. For one might ask how he knows that there are no infinite numbers, to which his response, as Cantor reports it, would simply be

[40] When presented in the *Physics,* the argument is described by Aristotle as proceeding logically (Jioy1Kw<;),a manner which is contrasted to proceeding physically (<jluotKw<;),or according to the principles of his physics. Thomas Aquinas explains this difference: "He calls these first arguments logical, not because they proceed logically from the terms of logic, but because they proceed in the manner of logic, that is, from things which are common and probable, which is proper to the dialectical syllogism" (III *Physics,* lect. 5 [349]). The Ross edition of Aristotle uses the word 'dialectical' to describe the argument.

[41] Aquinas, HI *Physics,* lect. 8 (352).

[42] That is, the principle whereby any finite integer can be created by adding a unity to a given integer. For more on Cantor's transition from the first to the second principle of generation see Christopher Menzel, "Cantor and the Burali-Forti Paradox," *The Monist* 67 (1984): 94-95.

"because all numbers are finite," which, of course, is the point in question.

Still, even as Cantor presents it there is something more to Aristotle's argument, namely, the daim that numbers are numerable. It is not so much Aristotle's daim that aH numbers are finite that Cantor attacks here, but the notion that all enumerations are finite ones, or are made in terms of finite numbers, or, most precisely, that one can make determinate (or measure) the quantity of some number using numbers alone. The charge of *petitio principii* stands only on the supposition that one could show that not aU numbers are finite ones. Cantor is well aware of this. Immediately after presenting what he believed to be the basic flaw in the Aristotelian arguments, Cantor says:

> I believe that I have proven above, and it will appear even more dearly in what follows in this paper, that *determinate enumerations of infinite sets* can be made just as well as for finite ones, assuming that a definite law is given the sets by means of which they become well-ordered. [43]

Cantor's point is despite Aristotle, infinite sets can be measured, their elements can be enumerated. They are not measured, however, as finite sets are, that i.s, by means of the unit and terms of some finite number of such units; rather, they are measured by means of a limiting number which succeeds all in the set, and which is greater than any finite quantity of units. [44] Such a number is generated (or rather, discovered) by means of a principle altogether different from that which generates enumerations among finite numbers. This infinite enumeration depends upon the principle whereby the members of the set being numbered are ordered; enumerations of finite sets, though they also require an ordering, are the same despite the particular ordering chosen. [45] Members of the higher number dasses differ from themselves in determinate ways acceptable to mathematicians (for example, $w + 1$ is one greater than w), and laws of

[43] Cantor, "On Infinite, Linear Point-Manifolds,"§ 4, p. 105 (emphasis added).

[44] See the description of Cantor's second principle of generation, above.

[45] The essential difference between the finite and the infinite, says Cantor, is the simple fact that infinite sets have infinitely many ordinal numbers whereas finite sets have only one; see *Grundlagen,* § 4.

arithmetic can be formulated to deal with these numbers. Thus, Cantor would say, not all numbers are measured by counting up units, but only finite ones. Infinite numbers are measured by correlating a series of arithmetically different infinite integers with certain orderings of their members, such that a different ordering yields a different enumeration. These enumerations, being determinate, can therefore be a legitimate subject of our understanding:

> The assumption that besides the Absolute (which is not obtainable by any determination) and the finite there are no modifications which, although not finite, nevertheless are determinable by numbers and are therefore what I call the actual infinite-this assumption I find to be thoroughly untenable as it stands.[46]

Cantor next turns to the second Aristotelian argument, which he summarizes in this way: "the finite would be dissolved and destroyed by the infinite if it (the infinite) existed, since the finite number is allegedly destroyed by the infinite."[47] As presented, the argument has some cogency to it: how could one increase infinity? How could one go beyond that which is beyond all? How could one infinite be greater than another? For, apparently, to be greater implies that the other is less and so has a definite limit, or term: and if something is less than infinite, then how could it be said to be infinite at all? The logical consequence, of which Cantor, once again, is well aware, is that if there were such a thing as the infinite, there could be only one. Nor would such an infinite be at all determinate or, especially, numerable, since to

[46] Cantor, "On Infinite, Linear Point-Manifolds,"§ 5, p. 107.

[47] Ibid., § 4, p. 105. If Cantor has book 11 of the *Metaphysics* in mind, he may be referring to the argnments in lines 1066a28-32 and 1067a18-21 of chapter 10, though these more obviously deal with an infinitely large universe composed of a finite number of kinds of element, the result being that one kind of element, being infinite in size, would destroy the others. (Similar arguments appear in book 3 of the *Physics*, chapter 5, at lines 204b13-19 and lines 205a 24-25.) An analogous case might be made for numbers. Just as the 'addition' of a finite amount of water, say, to a universe in which there was already infinite fire would not change the situation, so the addition of a finite number to an infinite number would not result in anything new. As Joseph Dauben expresses it: "Given any two finite numbers a and b, both greater than zero, their sum a + b > a, a + b > b. However, if b were infinite, no matter what finite value a might assume, a + = (Dauben, *Georg Cantor*, 122).

number it (or to measure it) would be to establish some point at which it ended, and beyond which it did not go.

Cantor's response to this argument is straightforward, and comes down to asking whether an infinite number, though it measure an unlimited number of members in a series,[48] need itself be unlimited in Aristotle's sense of the word.[49] As we saw earlier, though any number within the series of finite integers is a limit, in some sense, with respect to those that precede it, w is not such a limit: it exceeds all numbers within the series, but is not itself a member of that series. So a limit need not be finite. Nor is it the case that an infinite limit be itself without limits, for though it is the limit for integers in the first number class (and so is without a *finite* limit), w is itself surpassed by countless integers in its own number class, whose limit is the first number within the third number class (2w), and so on. There are many numbers, then, that are 'beyond' w, though no finite number can surpass it. It is a limit (and so a definite quantity), and is itself both limited and unlimited, but in different respects.[50]

To return to the argument proper, then, while one could not add a finite quantity to Aristotle's actually infinite number (that is, to a quantity that surpasses all quantities and is strictly unlimited,) and in this sense the finite would be destroyed by the infinite, still, Cantor argues,

> to an infinite number (if it is thought of as determinate and complete) a finite number can indeed be adjoined and united without effecting the dissolution of the latter (the finite number)-the infinite number is itself modified by such an adjunction of a finite number.[51]

[48] Recall that Cantor sees any infinite real integer created by means of the second principle of generation as a 'limiting' number. The first infinite ordinal, w, is seen as the limit of the unending series of finite integers, which he calls (I): it is as such a limit that it can be called a 'measure' of the number of members in that series.

[49] Aristotle's term for the infinite, TO liunpov, might be translated as 'infinite', 'boundless', 'unlimited', or even 'indefinite'.

[50] Cantor describes his discovery as "that which regards the infinitely great not merely in the form of that which increases without limit … but also which fixes it by numbers in the determinate form of the completed infinite" (Cantor, "On Infinite, Linear Point-Manifolds," § 4, p. 106).

[51] Jbid., § 5, p. 105.

What sense does Cantor make of adding a finite number to an infinite number? Recall his qualification of the commutative law for addition when it came to infinite numbers. According to Cantor, $1 + w = w$, while $w + 1 > w$; in fact, $w + 1$ is the second of the infinite ordinal numbers. Returning to the example of the series of finite integers mentioned above, let us suppose the well-ordered series of finite integers: 1, 2, 3, ... v, ... which has, as its limiting number, the first infinite ordinal w. Let us now suppose that we displace one member of the series, obtaining: 2, 3, 4, ... $v + 1$, ... 1. Since we are dealing with a series in which there is no greatest, and since the numbers in the series are reciprocally well-ordered (up to the last element of the second series, that is, to 1 in the first corresponds 2 in the second, to 2 in the first corresponds 3 in the second, to v in the first corresponds, and in the same position, $v + 1$ in the second, and so on), there are as many members up to 1 in the second series as there are in the first series, taking their ordering as the operative principle. Therefore the ordinal number of the second series is one greater than that of the first, or $w + 1$.[52] Nevertheless, it is crucial that the finite number be added to the infinite number, and not conversely. For, in comparing the well-ordered series of finite integers: 1, 2, 3, ... v, ... to the series 2, 1, 3, ... v, ... one can see that there is, in fact, a one-to-one correspondence throughout. In other words, $v + w = w$ (where v is any finite integer). [53]

In this way, Cantor meets Aristotle's objection:

> If w is the first number of the second number class, then $1 + w = w$, but $w + 1 = (w + 1)$, where $(w + 1)$ is a number entirely distinct from w. Everything depends, as is here clearly seen, upon the position of the finite relative to the infinite; in the first case, the finite is absorbed into the infinite and vanishes,

[52] If ordering is not a concern, that is, if we simply establish a one-to-one correspondence between members of the series (that is, 1 with 1, 2 with 2, and so forth,) the number will be the same: in this case, the series of finite integers has a cardinal number of N_0, the smallest infinite cardinal number.

[53] Russell defines 'greater than' with respect to infinite ordinals in this way: "One serial number is said to be 'greater' than another if any series having the first number contains a part having the second number, but no series having the second number contains a part having the first number" (Russell, *Introduction to Mathematical Philosophy,* 90).

· but if it modestly takes its place after the infinite it remains intact and unites with the infinite to form a new (since modified) infinite. [54]

Finally, Cantor raises a point that gets at the very heart of Aristotle's difficulties with infinite numbers in general, which difficulty Cantor called the trp!lhov (jJEOooc;,the initial falsehood, upon which all finitistic reasoning is based:

All so-called proofs against the possibility of actually infinite numbers are faulty, as can be demonstrated in every particular case, and as can be concluded on general grounds as well. It is their 1TpWTOV that from the outset they expect or even impose all the properties of finite numbers upon the numbers in question, while on the other hand the infinite numbers, if they are to be considered in any form at all, must (in their contrast to the finite numbers) constitute an entirely new kind of number, whose nature is entirely dependent upon the nature of things and is an object of research, but not of our arbitrariness or prejudices. [55]

Transfinite numbers are not extensions of the finite integers in the sense that an infinity has been added to a given finite integer to produce them. A transfinite number is a different *kind* of number. (This point is at the heart of Cantor's charge of question-begging, above.) One cannot expect the properties of one species within a genus to be applicable to another within that same genus. Aristotle's basic error was in taking one species of number, namely the finite integers, to be the genus itself, number. One might just as mistakenly take the species of rectilinear figures to be the genus itself, thereby excluding the whole class of curved figures from consideration. But what holds for one among the species within a genus does not necessarily hold for the others:

It is here [by finitists] tacitly assumed that properties which for numbers as we have previously understood them are disjunct, are equally so for the new numbers, and one accordingly concluded the impossibility of infinite numbers. Who fails to see this fallacy at a glance? Isn't every generalization or extension

[54] Cantor, "On Infinite, Linear Point-Manifolds,"§ 5, p. 109.

[55] Letter of Georg Cantor to Gustav Enestrom, quoted in Dauben, *Georg Cantor,* 125.

of concepts associated with the abandonment of certain special properties, even unthinkable without it?[56]

Cantor likens his introduction of the theory of transfinite numbers to previous extensions of the concept of 'number', such as the rationals, the irrationals, and the complex numbers.[57] Such extensions, he notes, are regarded as mathematically legitimate:

> It (mathematics) is obligated when new numbers are introduced to give definitions of them by which such a determinacy and, under certain conditions such a relationship to older numbers is granted them, that they can in any case be definitely distinguished from each other. As soon as a number satisfies all these conditions [consistency, and standing in determinate, orderly relationships to other numbers] it must be regarded as mathematically existent and real. It is in this that I see the reason given in paragraph 4 why the rational, irrational and the complex numbers are to be considered as much existent as the finite positive integers.[58]

Cantor's strategy is to defend his transfinite numbers as legitimate extensions of the concept of real integer by establishing their consistency and definite relationships to the finite integers. To that extent, they would then be regarded as just as mathematically legitimate as previous extensions of the same sort and included within a distinct species of number.

The charge of taking the species to be the genus is a serious one, since the mistake would have occurred in the very principles of mathematics, affecting the remainder of that study. Yet how might this have occurred? Bertrand Russell offers a distinct account of mathematical reasoning in general. He recognizes, of course, the basic distinction between arriving at the general principles of a science and making deductions from such principles.

[56] Cantor, "On Infinite, Linear Point-Manifolds,"§ 6, p. 110. The 'properties' in question are even and odd. The argument would go as follows: since an infinite number is neither even nor odd, and since all numbers are either even or odd, then an infinite number cannot be a number. Cantor maintains that the property of being either even or odd belongs to finite numbers, not to all numbers.

[57] The very first sentence of the *Grundlagen* points out that any advance in the theory of sets depends upon extending the concept of real integer in this way. For more on extensions to the concept of number, see Russell, *Introduction to Mathematical Philosophy,* chap. 7.

[58] Cantor, "On Infinite, Linear Point-Manifolds,"§ 8, p. 115.

Thus one might arrive at Euclid's axioms and postulates by generalizing from practices in land-surveying, and then turn around and deduce other propositions from the principles so discovered. With respect to the question of where mathematical reasoning begins, Russell gives a surprising answer: "The most obvious and easy things in mathematics are not those that come logically at the beginning; they are things that, from the point of view oflogical deduction, come somewhere in the middle. "[59] One would not naturally begin mathematical reasoning with the axioms and then make deductions from them; rather, one might begin with some intermediate proposition, deduce something from it, or, conversely, ask in what principle that proposition itself is grounded.

To apply this to what Cantor calls the np<lhov lll EOooc;, one might imagine Aristotle abstracting the notion of finite integer (which would be somewhere in the middle, logically, between the genus, number, and the species of finite integer) and seeing it as *the* starting point of mathematical reasoning, much as one might mistakenly take a theorem to be an axiom. If finite number *is* number, then infinite numbers cannot be numbers at all. If Russell is correct, however, to regard what one first arrives at in mathematical reasoning as logically first also is to neglect another form of mathematical thought altogether. The process of extending the concept of 'number' (which originally was taken to mean 'finite number') so as to include other species (such as the rationals and the mixed numbers) can be seen as an attempt, through history, to engage in Russell's second type of reasoning. As he says: "We shall find that by analysing our ordinary mathematical notions we acquire fresh insight, new powers, and the means of reaching whole new mathematical subjects by adopting fresh lines of advance after our backward journey. "[60]

The error in finitist arguments against infinite quantities can therefore be seen as a mistaken insistence upon one's first (or 'ordinary') mathematical concepts as being *logically* first as well. To define number as a "multitude measured by the unit," as Aristotle does, is to associate properties belonging to a single

[59] Russell, *Introduction to Mathematical Philosophy,* 2.

[60] Ibid.

species of number with the genus, or to take finite numbers as being the genus of number itself. The fundamental error in Aristotle's arguments against the actual infinite is a logical one.[61]

III. REFLECTIONS AND OBSERVATIONS

It first appears that Cantor and Aristotle are speaking of very different things: the actual infinite Cantor affirms is not the actual infinite Aristotle denies. For one thing, Aristotle regards the actual infinite as being unbounded in any respect: it is entirely without limits.[62] This is why arguments such as that given against a finite number of elements in an infinitely large universe have the cogency they do. Cantor's transfinite numbers, on the other hand, are not entirely unlimited: for since infinite numbers are generated in classes, such that one advances from the second number class[63] to the third by applying the second principle of generation, numbers within such classes are arranged as a series. So, the numbers of the first number class are: w, $w + 1$, $w + 2$, and so on. Clearly, any of these numbers has a limit: for $w + 1 >$ w, and so $w + 1$ is a sort of limiting quantity for w. Further, the first number of the third number class, 2w, is set down as the limiting number for all numbers in the second number class. Therefore, there is always a number greater than any transfinite number, or no transfinite number has an *unlimited* quantity. And this seems to accord with what Cantor himself says:

[61] One would do well to contrast Russell's account of mathematical learning with Aristotle's own account of learning in the opening passages of his *Physics*. In reasoning, to proceed from the more known to the less known requires that one begin with the more universal and proceed to the less universal. It is therefore impossible to 'begin', strictly speaking, with a species in reasoning. For the species, if it is understood, must be seen as a species of some genus. If Aristotle rightly understood finite number, then, he would have to have a right understanding of number also. Note that Cantor does not claim that Aristotle misunderstood the nature of finite numbers, only that he took such to be the genus. What seems to be the case, rather, is that infinite numbers and finite numbers are not species within a common genus. We address this matter below.

[62] As he says in *Physics* 3.5.204b20-22: "For a body is something having extension on every side, while the infinite is an extension without limits, so that an infinite body would be extended infinitely in every direction."

[63] The second number class is the first class containing infinite numbers. The first number class is the class of finite integers.

What I declare and believe to have demonstrated in this work as well as in earlier papers is that following the finite there is a transfinite *(transfinitum)-which* might also be called supra-finite *(suprafinitum),* that is, there is an unlimited ascending ladder of modes, which in its nature is not finite but infinite, but which can be determined as can the finite by determinate, well-defined and distinguishable numbers. [64]

Aristotle's arguments against an actually infinite number were not directed against transfinite numbers as Cantor describes them. Only a number that exceeded all limits would 'absorb' finite numbers added to it; transfinite numbers do not, precisely because they are limited in that respect.

Yet one might take Aristotle's arguments as also applying to any but finite numbers. For Aristotle saw number as a type of quantity (more precisely, as a type of discrete quantity,) and quantity is predicated in answer to the question *how much* or *how many.* For Aristotle, one answers such a question in the case of discrete quantities by 'counting', or enumeration. To determine attributes of things in other ways is to ask (and answer) other sorts of question about them, such as *where, when, of what sort,* and so on. [65] Although, as Bertrand Russell points out, definitions of things by extension (that is, through enumeration) differ from those by intension (through specifying some proper characteristic), in the case of infinite numbers enumeration is not possible, and we are left with the possibility of intensional definitions alone. [66] The difficulty is that intensional definitions seem to belong more properly to questions and manners of answering questions that *differ* from the *how much* or the *how many.* In truth, it is dear that an intensional definition may be given independently of any considerations concerning the *how much* or the *how many* of some thing. The first infinite ordinal number, w, may say something about the unending series of finite integers, but it is not dearly an answer to the question of *how many* such

[64] Cantor, "On Infinite, Linear Point-Manifolds,"§ *5,* p. 107.

[65] The names of several of Aristotle's categories as given in the Greek are interrogatives such as these. For example, noooc;, *how much* or *how many,* quantity; noloc;, *of what sort,* quality; uoo, *where,* place; and! TIOn:, *when,* time.

[66] Russell, *Introduction to Mathematical Philosophy,* 12-13.

integers there are.[67] It may be something more akin to quality or relation. If defining by extension, that is, counting, is how one answers the question *how many,* then properly speaking only finite numbers could be found in the category of quantity. To use the word 'number' to describe something in a category other than quantity would be to equivocate. If transfinite numbers are numbers, that is, one among the species within the genus number, as Cantor claimed, the word 'number' would be used of them and of finite integers without such equivocation.

Apart from whether Aristotle and Cantor are speaking of the same thing, however, is another issue: whether Cantor has in fact established that there are such things as transfinite numbers. Note that, for Cantor, existence is of two sorts.[68] The sort with which mathematicians *per se* are concerned he calls 'intra-subjective' or 'immanent' existence. For mathematicians are concerned not with 'transsubjective' reality, what is actually found "in corporeal and intellectual nature,"[69] but with consis-tency and determinate relations among mathematical concepts in the mind: "Mathematics, in the construction of its ideas, has *only* and *solely* to take account of the *immanent* reality of its concepts and has *no* obligation whatever to make tests for their *transient* reality."[70] It is on account of this distinction that mathematics deserves the name 'free mathematics'.[71] Nevertheless, Cantor claims throughout the *Grundlagen* that his transfinite numbers are real in the second sense also: that the concepts in the mind are tokens of separate natural or intellectual realities. In truth, Aristotle's arguments against an actual infinite would pose no threat to Cantor's theory unless he were making such a claim also: for the arguments are clearly directed not against the logical consistency of such concepts but against their actual existence in the world.

[67] The same would hold for infinite cardinals.

[68] See *Grundlagen,* § 8.

[69] Cantor, "On Infinite, Linear Point-Manifolds,"§ 8, p. 114.

[70] Ibid., p. 115.

[71] Ibid.

Cantor does hold that the transfinite numbers, in virtue of being well-defined concepts/ [2] have existence in the mind, but he is also convinced they have existence outside the mind:

> Reality can be ascribed to numbers in so far as they must be taken as an expression or image of the events and relationships of that outer world which is exterior to the intellect, as, for instance, the various number-classes OJ (II) (III) etc. are representative of powers which are actually found in corporeal and intellectual nature. [73]

And, in the same place:

> fo lieu of the thoroughly realistic but at the same time none the less idealistic basis of my considerations, there is no doubt in my mind that these two spheres of reality [intrasubjective and transsubjective] are always found together, in the sense that a concept said to exist in the first way always also possesses in certain and even in an infinity of ways a transient reality.

His reason for this daim, which he immediately provides, is rooted in the inseparable unity of aU things. "The connection of both realities has its peculiar foundation in the unity of the All, *to which we ourselves belong."* He does not daim that the extramental existence of numbers is a thing easy to grasp; [74] nevertheless, he is confident that they are there.

As regards establishing the legitimacy of transfinite numbers as concepts, Cantor made some dear advances. He argued that the transfinite numbers are dearly distinct from the finite numbers and from the potentially infinite. He also argued that they have a definite character, and stand definite relationships both to each other and to other numbers, induding finite numbers. He even outlined a rudimentary arithmetic which applies to transfinite numbers alone. Nevertheless, at the conceptual level,

[72] Cantor's three conditions for the 'i11trasubjective' reality of our ideas are that they: (1) occupy an entirely definite place in our 1mderstanding on the basis of definitions; (2) can be precisely differentiated from all other parts of our thought; and (3) stand in determinate relationships to those parts, and so have a determinate effect on our thought (ibid., p. 114).

[73] Ibid.

[74] Determining what the transie1r1treality of such things is "becomes for the most part one of the most troublesome and profound problems of metaphysics and must frequently he left to times in which the natural development of one of the other sciences eventually reveals the transient meaning of the concept in question" (ibid).

transfinite numbers have not been entirely free of difficulty.[75] But even if one were to grant the free use of transfinites at the conceptual level, does it follow that what one conceives of in this way thereby exists?

Among the arguments given in favor of the infinite, Aristotle notes one for which he claims a special status:

> Most important of all [among the reasons for a belief in the infinite] is one which raises a difficulty for everyone: for it seems that number and mathematical magnitudes and what is outside the heavens are infinite because they do not cease in our thought.[76]

He addresses this argument at the end of his account of the infinite, noting that thinking and what thinking is about may not correspond:

> To trust to thinking is absurd, for the excess or the deficiency is not in the thing but in the thought. For one of us might think that someone is bigger than he is, increasing him *ad infinitum:* but it is not because something thinks this that he is bigger than we are, rather, it is because he *is* [bigger], and the thought is accidental.[77]

For Aristotle, number is real insofar as there is a multiplicity of things that are numbered. This is why Aristotle calls the infinity of number a 'potential' one, since it is consequent upon the division of continuous quantity, and such a division results in numerically distinct units. By one act of division I produce two things, by two acts three, and so on. Since the continuous is divisible *ad infinitum,* but never all at once, the number that is consequent upon such a kind of division is also infinite in the same way.[78] It is also dear, then, that, for Aristotle, there could

[75] One would naturally take into account here the discovery of various paradoxes belonging to the very set theory Cantor sought to advance by the introduction of infinite numbers, as well as David Hilbert's attempt to rescue mathematics through formalism, and the consequent, and disappointing, discovery of Kurt Godel. Yet it is not my intention here to go into the question of the consistency of transfinite theory, since the proper question regards whether such concepts correspond to reality.

[76] Aristotle, *Physics* 3.4.203b22-25.

[77] Ibid. 3.8.208a14-19.

[78] See esp. ibid. 3.6.206a18-24; and 3.7.207b10-14.

not be such an infinite among numbers unless there were an infinite magnitude as well.[79] The same is also clear when one considers Aristotle's notion of the objects of mathematics. For he says in book 2 of the *Physics*[80] that the mathematician considers physical things not insofar as they are physical (that is the work of the physicist) but insofar as they are mathematical. To study infinite numbers would be to study infinite substances having such a number, not as physical substances, but precisely insofar as they are *so many*.[81]

If Cantor is right, there must *be* an unending series of finite integers. If not, one could not take *w* as expressing "the idea that the entire assemblage (I) is given in its natural, orderly succession."[82] But if the unending series of finite integers exists, where is it? Is even the first number series truly infinite, let alone the transfinite numbers? For the mathematician as such, the question is not an important one.[83] Yet Cantor is not merely a mathematician; his claims for transfinite numbers are metaphysical as well. The answer to the question of where infinite numbers can be found-which Cantor does ultimately supply, that is, in the mind of God-is no fitting response to the Aristotelian objections: for it could not be in virtue of an intuition of the divine intellect that we are made aware of the unending series of finite integers. What does seem to be the case, rather, is that our everyday acquaintance with finite integers in counting, coupled with the mind's ability to add "ever one more," raises the very question of infinite numbers in the first place.

CONCLUSION

I have attempted to provide a basic overview of Cantor's theory of transfinite numbers from a philosopher's standpoint,

[79] See Joseph S. Catalano, "Aristotle and Cantor: On the Mathematical Infinite," *Modem Schoolman* 46 (1968-69): 264-67.

[80] Aristotle, *Physics* 2.2, esp. 193b31-194a11.

[81] Although it appears, as we mentioned above, that one cannot rightly ask *how many* about an infinite number of things.

[82] Cantor, "On Infinite, Linear Point-Manifolds,"§ 11, p. 132.

[83] See Hilbert, "On the Infinite," 201. Thongh he claims that the infinite does not exist in nature, nevertheless it is still mathematically legitimate to make a study of it.

noting that Cantor himself was intensely interested not only in demonstrating the legitimacy of such numbers to mathematicians but also in justifying them in light of traditional objections to actual infinity. Chief among the objectors was Aristotle, whom Cantor took as the source of medieval and later objections to the actual infinite, and so I have dealt with Cantor's answers to the Aristotelian arguments. Finally, I have tried to provide some observations on the force of the Aristotelian arguments in light of Cantor's discoveries. For the most part, though I recognize that Cantor's development of transfinite theory was an outstanding mathematical achievement, I find that Cantor either misunderstood the point of Aristotle's arguments or failed to meet them successfully. Aristotle still has much to say against transfinite numbers; the matter has not been settled by Cantor's attempts to meet the objections and to dispel the confusion surrounding actually infinite quantities.

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NOTE ON BALTHASAR'S TRINITARIAN THEOLOGY [1]

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I. THE THEOLOGY OF THE MYSTERY OF THE FATHER

Certain views recently propounded by P. Ferlay and Hans Urs von Balthasar present difficult problems for Trinitarian theology. The fundamental thesis upheld by the former is that God is a "certain community where each realizes his end fully in forgetfulness, in dispossession." [2] The latter carries this same thesis even farther: "Inherent in the Father's love is an absolute renunciation: he will not be God for himself alone. He lets go of his divinity and, in this sense, manifests a (divine) God-lessness (of love, of course). The latter must not be confused with the godlessness that is found within the world, although it undergirds it, renders it possible and goes beyond it," wrote the great Swiss theologian in his *Theo-drama* (4:323-24).

Neither theologian seems to have taken account of the fact that certain analogous views, apparently held by Joachim de Fiore, had already been considered and dearly rejected by the Fourth Lateran Council in 1215. "No one can say that the Father has transferred his substance to the Son in begetting him, as if he had given it to the Son without keeping it himself; in that case it would have ceased to be substance. It is therefore dear that the Son in being begotten has received without any diminution the substance of the Father and thus the Father and the Son have the same substance." This declaration is presented as an "orthodox

[1] Adapted from Bertrand de Margerie, S.J., "Trinite," in *Catholicisme* (Paris: Letouzey et Ane, 1997) (translated by Gregory F. LaNave).

[2] P. Ferlay, *Precher la Trinite* (1973), 237, 258, etc.

and catholic" explanation of the faith concerning the consubstantiality of the Father and of the Son, in light of John 10:29 (Denz.-Schon. 805).

We have here a paradox: some modern authors, evidently concerned with spirituality, have unwittingly fallen into a conception of the divine Being that is overly materialistic. The Father, in giving himself, does not lose his omniscience, nor his knowledge of himself. We, as men, can and must lose ourselves -that is, not what is good in us and comes from God, but our sinful tendencies which result from original sin or our actual sins; but God cannot "deny himself" (2 Tim 2:13).

It must be noted that Balthasar perceived the difficulty to which his thought leads: "the Father, in uttering and surrendering himself without reserve, does not lose himself" *(Theo-drama,* 4:325). While glossing over certain excesses that we find in his formulations, it is preferable to interpret them benignly, understanding them within a fundamental intention of orthodoxy.

Yet there is another formulation of Balthasar' s that we cannot see how to justify: "The Father, too, owes his Fatherhood to the Son who allows himself to be generated" *(Theo-drama* 5:245). This is unacceptable even on the level of human analogy: the earthly father is father before his son can consent to it. It is also unacceptable on the divine level: the will of the Father and of the Son is one. One cannot say that the Son voluntarily consents to a will the Father had to beget him and which would be different from his own will. A kind of human psychologism risks drawing the readers of the Swiss theologian in the direction of tritheism.

II. THE THEOLOGY OF THE MYSTERY OF THE SON

Given the strong affirmations in the Gospels of the unity between the Father and the Son-affirmations reiterated by several ecumenical councils in underscoring their consubstantiality-we cannot accept the dialectical, obscure, and, above all, dangerous language of Balthasar, who appears to affirm and to deny it at the same time: "God the Father can give his divinity away in such a manner that it is not merely 'lent' to the Son: the Son's possession

of it is 'equally substantial.' This implies ... an incomprehensible and unique 'separation' of God from himself" *(Theo-drama,* 4:325). The inverted commas inserted by the author change nothing: the Gospel according to John (16:32) and catholic faith are opposed to the whole concept of 'separation' between Father and Son, even during the Passion. Even on the cross, there is, as Walter Kasper writes, "in God and between the divine Persons infinitely more interrelation and interpersonality than there is between human persons, because of their unity." [3]

III. THE THEOLOGY OF THE MYSTERY OF THE HOLY SPIRIT

The Third Person is without doubt the one who has been the object of the most intense theological reflection in recent decades. One of the prominent directions this has taken has been in the theme of the Cross as the locus par excellence of pneumatology.

For Balthasar, transposing to the Person of the Spirit his views on the double expropriation of the Father and the Son, "their 'We,' that is, the Spirit, must also be God if he is to be the 'personal' seal of that self-expropriation that is identical in Father and Son. For the Spirit does not want anything 'for himself" but the pure proclamation and outpouring of the love of the Father and of the Son, as his manifestation shows to the world Uohn 14:26; 16: 13-15). These views *(Theo-drama,* 4:331) call for the same reservations as those dealt with above. The orientation of the Spirit to the Father and the Son from whom he eternally processes, that is, the *ad Patrem et Filium* of this Spirit who is eternally *ex Patre Filioque,* does not signify an impossible "loss of the divine essence" in the Spirit who remains himself with no "pneumatological kenosis" when he glorifies the Father in glorifying the Son (cf. Toledo XI and XVI: Denz.-Schon. 528, 570).

Likewise, again despite Balthasar *(Theo-drama,* 4:223), the Father and Son do not owe their power of spiration to the acquiescence of the Spirit, any more than the Father owes his fatherhood to the consent of the Son. The relations between the

[3] Walter Kasper, *Le dieu des chretiens* (Paris: Cerf, 1985), 419.

Three involve no "total loss of divinity" -something unknown, not to say completely rejected, in the patristic tradition and in medieval theology. One could apply to these views the label their author gives to the sufferings of the Greek gods in their passions: mythology. The fundamental error here consists in fashioning the Trinity in the image of man, rather than retaining the *via negativa* and the *via eminentiae* of which analogy is composed.

For Balthasar, everything that happens on the cross is the development of the drama proper to the inner-Trinitarian life: if the Father gives himself to the Son while giving him up, and if the Son responds with perfect obedience, if therefore there is a infinite dramatic movement of self-gift and response, this movement implies as well an infinite separation between Father and Son along with their infinite union, for their separation is both sustained and overcome by the Spirit.

The influence of HegeHan dialectic on all such pneumatologies of the cross is evident. They do not come to the point of crucifying the Trinity-and yet they justify a certain uneasiness much greater than that occasioned in sixth-century Constantinople by the formula of the Scythian monks, finally ratified, "one of the Trinity was crucified"; for even this was understood at first to be commending a "crucifixion of the Trinity."

If the Spirit of the Father and the Son seems to us to be, rather than the sorrow of God, his infinite joy, it is nevertheless true that it is the Spirit who has brought about in the humanity of the Son the will to offer himself in sacrifice to the Father for the life of the world: "how much more will the blood of Christ, who through the eternal Spirit offered Himself without blemish to God, cleanse your conscience from dead works to serve the living God?" (Heb 9:14). In the words of the beautiful commentary of Pope John Paul II, "the Holy Spirit acted in a special way in this absolute self-giving of the Son of Man, in order to transform this suffering into redemptive love" *(Dominum et vivificantem* 40). The sacrificial love inspired in the incarnate Word by the Spirit with respect to the Father and to the brethren carries out in time the eternal love of the one Son who is at the origin of the Spirit himself.

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Vol. 2: *1930-1939.* Fribourg: Editions Universitaires; Paris: Editions St. Paul, 1997. Pp. 1001. SF 130. ISBN 2827107651.

Vol. 3: *1940-1949.* Fribourg: Editions Saint-Augustin, 1998. Pp. 969. SF 100. ISBN 2880111374.

Jacques Maritain (1882-1973) hardly requires introduction to the readers of *The Thomist.* Charles Journet (1891-1975), by contrast, has remained relatively unknown outside of the French-speaking world. Professor of dogmatic theology at the diocesan seminary in Fribourg, Switzerland, for his entire teaching career, and the author of numerous works in theology, most notably *L'Eglise du Verbe incarnee* (3 vols.: 1941, 1951, 1969), Journet attracted attention in 1965 when Pope Paul VI appointed him to the College of Cardinals. For some fifty years, from 1920 until Maritain's death in 1973, Maritain and Journet maintained a regular correspondence, uninterrupted even by their separation on two continents during World War II. Prepared under the editorial direction of Georges Cottier, O.P., and Bishop Pierre Mamie, the *Correspondance* will eventually total six volumes, containing virtually all of the letters exchanged between the two friends. The volumes include explanatory footnotes (identifying persons, publications, and events little remembered today), short essays (on topics such as the religious climate in Geneva during the 1920s), appendices (usually composed of texts the authors had included in their correspondence), biographical summaries, chronologies, and indices: in all, an impressive undertaking.

Initiated by Journet, who wrote Maritain to express his admiration for the philosopher's then-newly published *Introduction generate Ala philosophie,* the correspondence between the two men would serve as the principal vehicle for a remarkably close friendship. The first three volumes of the *Correspondance* take us across a widely diverse historical terrain: the inception of the Thomistic renaissance in the early 1920s, the condemnation of *Action* in 1926, the Spanish Civil War, the defeat of France in World War II, De Gaulle and the *Resistance,* censorship in war-time Switzerland, the Vatican of Pope Pius XII, and the United Nations Declaration of Human Rights.

At the time of their first exchange of letters, Maritain was a rising star on the French Catholic intellectual scene, with several books already to his credit, including *Art et scholastique* and *La philosophie bergsonienne.* Journet was then a parish priest in Geneva, whose first book, *L'Esprit du protestantisme en Suisse,* would not appear until 1925. The family backgrounds and intellectual milieus of the two men could not have been more different. A member of the Parisian liberal elite by right of birth (grandson of the Protestant Jules Favre, a leading politician of the Third Republic), educated at the Sorbonne, student of Henri Bergson, and friend of Charles Peguy, Leon Bloy, Georges Rouault, and Jean Cocteau, Maritain-a Catholic convert-circulated freely within French intellectual and artistic circles. By contrast, Journet-a cradle Catholic born to a family of *petits commercants* and educated in the seminary-found himself a foreigner to the mainstream cultural life of his native Geneva, then a bastion of Protestant thought, religious practice, and political governance.

What drew the two men together was their shared conviction that a return to Thomas Aquinas's philosophical and theological thought could provide the basis for a renewal of spiritual life within the Church, as well as foster interaction between the Catholic tradition and the intellectual currents of modernity. To this end, Maritain and his wife Raissa would found the *Cercles thomistes* in 1922, an initiative that Journet welcomed and to which he lent his enthusiastic support over the ensuing years. The aim was to establish groups of Catholic intellectuals whose common reference to Thomas Aquinas would furnish a supportive context for dialogue on (and with) the contemporary culture. Given the insularity of Catholic intellectual life during this period-laicization had pushed it to the margins of public debate on major issues-the project of adopting a stance of active engagement vis-a-vis modernity represented a considerable departure from conventional practice.

Despite this new attitude of openness, Maritain's writings from the period often betray a tone of hostility toward liberal institutions, quite out of keeping with his upbringing and the views he was to express in later years. His association with *Action* goes a long way toward explaining his mind-set at the time. To judge from the correspondence with Journet, questions of a political nature seem to have held little interest for Maritain during this period; the reasons that motivated his association with the monarchist movement lay elsewhere. This, however, did not prevent him from borrowing its political phraseology on occasion. Not until shortly before Pius Xi's censure of the movement in December of 1926 did Maritain bring a decidedly critical eye to the teachings of its leader, Charles Maurras. This was to initiate a process that would lead both Maritain and Journet to embrace democratic ideals, placing them on a collision course with their coreligionists who asserted a radical incompatibility between the Catholic faith and the liberal conception of the state. The violent overthrow of the Republican government in Spain, some ten years later, would transform this ideological divergence into a heated confrontation.

At the time of the *Action franr;aise* condemnation, numerous Catholic supporters of the movement refused to abide by the Pope's directive, citing the dictum "an unjust law is not binding in conscience" to justify their dissent. Maurras himself had earlier made a similar appeal when placed on trial for making threatening statements against the life of Abraham Schrameck, at the time the French Minister of the Interior. Maritain was called by the defense to testify on Maurras's behalf. Unable to appear due to illness, the philosopher sent the court of appeals a letter in which he discussed some Scholastic views on the morality of tyrannicide. This led the two correspondents to reflect on whether force could legitimately be used to oppose iniquitous laws and regimes, a topic they would take up anew during the dark years of World War n.

Apart from the *Action franr;aise* controversy, the letters reproduced in volume 1 focus mainly on issues of speculative theology. While preparing a study on the Holy Eucharist, Journet often invited Maritain to comment on his work in progress. The ontology of the Mass was of particular interest to the two men, especially the manner in which it might be deemed an authentic sacrifice: Does this sacrament render Christ's unique sacrifice at Calgary actually present across time and space, and if so how? Both ascribed to the thesis of real (not merely symbolic) sacrificial presence, but not until many years later wouldJournet publish his thoughts on this subject *(La Messe, 1957).* Maritain, as well, often related the details of his own research. Most frequently aired were his reflections on human and divine freedom, particularly regarding the question of evil. How, for example, is man's initiative in doing evil compatible with his total dependency on God in the order of causality? Some thirty years later Maritain would publish his most comprehensive study of this topic in *Dieu et la permission du mal* (1963).

The years covered in volume 2 (1930-39) show the two men actively collaborating on a variety of projects, most notably the coeditorship of the collection *Questions Disputees* (Desclee de Brouwer). Intended as a vehicle for the dissemination of working papers on issues of contemporary import, the collection was very much in keeping with Journet's and Maritain's own approach to the works of St. Thomas. This was not an exegetical or historical Thomism; their aim, rather, was to extend the tradition by bringing it to bear on emerging problems and debates.

Journet's *Juridiction de l'Eglise sur la Cite* (1931)-one of the first works to be published in *Questions Disputees-offers* a fine example of this kind of research. The book sought to elucidate, through reference to the medieval doctrine of the "two swords," the speculative principles that explain the nature and limits of the Church's jurisdiction over temporal affairs. This was to prove the beginning of Journet's theological reflections on the legitimacy of coercive measures within the sphere of Church action, which eventually would lead him to publish on topics such as holy war, the Crusades, and the Inquisition. The notion of "church" *(eglise)* figured prominently in this discussion. Journet held that it designated a mystery of cosmic proportions that extended in varying

degrees to all human beings and even in some manner to the whole of creation; yet at the same time he argued for the indispensability of the institutional framework provided by the pope and bishops. Giving an account of Church membership compatible with the canonical statement "outside of the Church there is no salvation" yet without appealing to the unacceptable distinction between two churches (the one visible and the other invisible) was of vital importance to Journet. His analysis-frequently taken up in the *Correspondance* and later developed in *L'Eglise du Verbe incarnee--compares* favorably with and perhaps even surpasses Karl Rahner's better-known orchestration of this theme under the rubric of "anonymous Christians."

The correspondence in volume 2 shows Maritain at work on the idea of Christian philosophy. We find him especially concerned to elucidate the implications of this idea for ethics and politics. (He nevertheless commented-not without irony-that a philosophy, and to an even greater extent a political party, should *be* Christian, rather than *call* itself Christian.) Maritain was convinced that Christian wisdom could have a formative role in guiding human action-individual and collective-and that the philosopher working from this perspective had a responsibility to pronounce on the hard questions of the day. The increasing polarization of European politics into two camps, communist and fascist, was particularly worrisome to Maritain. The spectacle of his fellow Catholics (not least some high officials in the Vatican) opting in favor of fascism-"the lesser of the two evils," they would argue-filled him with dismay.

The civil war in Spain brought Maritain's worst fears to a head; it quickly became the main topic of conversation in his letters to Journet. In the name of Christian social order, many Catholics had countenanced the overthrow of a democratically elected government and endorsed the Nationalist violence that followed (of which the bombing of Guernica is perhaps best remembered today). Some even dared to call it a "holy war," in light of the numerous atrocities committed against Catholic priests and nuns by extremists on the Republican side. Although deeply troubled by this anti-religious violence, Maritain was nevertheless of the view that it resulted in part from a tragic neglect of the plight of the working poor. He understood that, in the eyes of many Republicans, the Church in Spain had allied herself with the forces of repression. To side with Franco, the self-styled defender of Christianity, would, Maritain believed, ratify a situation of grave social injustice that would further alienate the laboring masses from the gospel. Instead, he recommended that European Catholics adopt a stance of compassionate neutrality vis-a-vis this conflict. To this end he helped found the *Comite frani;;aispour la paix civile et religieuse en Espagne,* and wrote several essays warning Catholics against the ideology of holy war. He took care to distinguish this ideology from the idea of *just* war, the criteria of which, in his opinion, neither side-Nationalist or Republican-fulfilled.

Maritain's rather measured comments brought down on him a hail of criticism. For a time he ran the risk of ecclesiastical censure; it was hinted that if

he continued to speak on the Spanish question, his *Humanisme integral* would be placed on the Index of forbidden books. Journet, who supported Maritain's stance, also fell under suspicion. His local bishop pressured him to remain silent. Both men received acrimonious letters from friends and associates. Their correspondence with P. Claude! and R. Garrigou-Lagrange (reproduced in this volume, along with Journet's exchange of letters with his bishop) proved especially painful, revealing a Catholic intelligentsia deeply divided on the question of the Christian's political responsibilities in a modern, pluralistic world.

The third volume in the *Correspondance* is almost entirely dedicated to the war years. The unfolding events of the period, seen through the eyes of the two friends and communicated in their letters, makes for dramatic and even suspenseful reading. Having come to North America some months prior to the defeat of France, Maritain lived in New York City (with his wife Ralssa and her sister Vera) until the war's end. Journet remained in Switzerland, making occasional visits to France and Italy. Their correspondence is filled with observations and reactions to events large and small.

The establishment of the Vichy government in June 1941 raised difficult ethical questions for many Catholics, in France and abroad. The leaders of the new regime blamed their nation's defeat on the "spiritual decay" of the pre-war years, and urged a return to traditional morals and religious practice. They justified their policy of appeasement on grounds of the "lesser evil." De Gaulle's call to resistance, in turn, provoked a new set of questions: Was it true that Vichy represented an illegitimate government, one that patriotic Frenchmen should oppose? And should support given to De Gaulle, the military leader of the *Resistance*, extend to his *political* leadership of a government in exile?

In addition to discussing the major political issues of the day, the two correspondents also confided to one another their personal questions of conscience. Shortly after the beginning of the occupation, Maritain was offered a much-coveted professorship in the *College de France*. Would acceptance amount to an unseemly compromise with the partisans of appeasement? Or would it signal support for an independently minded academic establishment? After much soul-searching, Maritain decided to turn down the offer. On his side, Journet related his frequent troubles with Swiss censors, civil and ecclesiastical. Fear of invasion had rendered the national authorities wary of internal publications that might offend the neighboring Axis powers. Outspoken in its condemnation of Nazi atrocities, Journet's stand was deemed "imprudent" by his bishop, who, along with state authorities, sometimes refused him permission to speak publicly on such matters. Journet's spirited correspondence with his local bishop and the government censor are reproduced in this volume.

At the war's end Maritain was named ambassador of France to the Holy See. In that capacity he came to play a significant role in political discussions concerning post-war reconstruction, in France and in the broader international

community. He also did much to influence Vatican thinking on the question of anti-Semitism, although he never succeeded in persuading Pope Pius XII to publish an encyclical condemning the mistreatment of the Jews. These matters are all taken up in some detail in his letters to Journet. The *Correspondance* further shows the two men in discussion over the emerging intellectual currents of the post-war era: Sartre and existentialism, De Lubac and the *nouvelle theologie,* etc. It also includes documentation on an interesting three-way debate between Maritain, Journet, and M.-M. Labourdette, O.P., on the historical dimension of dogmatic theology.

The *Correspondance* has a great deal to offer. Scholars of twentieth-century Thomism will find it a valuable resource for understanding the historical setting of Maritain's and Journet's influential contribution to this tradition. Since so much of Maritain's work was published in response to_ particular events, these letters will provide a vivid feel for the existential context of its elaboration. Non-specialists will discover in the *Correspondance* a delightful introduction to Catholic intellectual life in this century. The reading varies from the speculative to the everyday to the meditative to the prayful. Both men open their hearts and speak their minds freely. Here we have testimony to a modern *spiritual friendship* that would have made Aelred of Rievaulx proud.

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Christ among the Medieval Dominicans: Representations of Christ in the Texts and Images of the Order of Preachers. Edited by KENT EMERY, JR., and JOSEPH WAWRYKOW. Notre Dame: University of Notre Dame Press, 1998. Pp. 754. $80.00 (cloth), $45.00 (paper). ISBN 0-268-00831-0 (cloth), 0-268-00836-1 (paper).

This volume is composed of the contributions from the Conference in Medieval Studies held at Notre Dame in September 1995. It is a high-quality collection of rare breadth: 25 contributions examine the place of Christ in exegetical and theological reflection, as well as in the preaching and iconography of Dominicans from the twelfth to the fifteenth centuries. As an appendix, the editors have established a catalogue that testifies to the rich presence of medieval Dominican authors at the University of Notre Dame Library: 82 manuscripts, incunabili, and sixteenth-century books (493-541). At the end of the work, 103 artistic reproductions magnificently illustrate the reflections of the contributors. The studies assembled in this volume can be divided into four groups: (1) Dominican pastoral writings, (2) Christology of

St. Thomas Aquinas, (3) Christology of other Dominican theologians, and (4) spiritual writings and iconography. The collection provides a vast overview of medieval Dominican Christology which manifests, in spite of the differences, the profound continuity of theological and spiritual reflection in the Order of Preachers. But the first merit of this book is to recall that the Dominicans, before doing philosophy, have been primarily theologians searching to account for the heart of their faith: the person of Christ. These studies thus contribute to rediscover the specifically theological matter of the Dominican tradition, which the philosophical enterprise of twentieth-century neo-Scholasticism has sometimes obscured.

In the first group of works, several studies demonstrate the place of Christ as the model preacher in the Dominican understanding of the preaching ministry. In this pastoral reflection of the first brothers, the figure of St. Dominic appeared only very discreetly-thus differing from Franciscan hagiography, which presents St. Francis as *alter Christus*. The analyses of J. Van Engen, J. Cannon, and S. Tugwell converge in establishing convincingly the unique character which the person of Christ assumes at the heart of the Christian and the apostolic life, according to the first Dominican tradition.

The series of studies consecrated to St. Thomas Aquinas does not offer a comprehensive view of his Christology, but rather clarifies particular aspects of it. On the exegetical side, D. Bouthillier presents an excellent choice of *collationes* from the *Super lsaiam*, showing how the thought of St. Thomas unfolds as a spiral around a unique axis who is Christ (139-56). On the liturgical side, R. Wielockx clearly establishes through a literary and doctrinal analysis the authenticity of St. Thomas's prayer "Adoro te devote"; this contribution includes an original study of the place of the corporal sense of sight in faith and in the glory of the resurrected (157-74). On the more systematic side, J. Wawrykow studies the question of the assumption of human nature by the Word *(Summa Theologiae* III, q. 3); by underlining the theme of Christ as Wisdom, he can demonstrate that the structure of St. Thomas's theology is not guided by an abstract plan, but by the Christological dispensation, in a coherent view of Trinitarian faith and soteriology. Through this fact, Wawrykow seeks to find, already in the first question of the *Summa Theologiae*, the implicit presence of the Crucified Christ, the Wisdom of God (175-96). The parallel between *STh* I, q. 1 and *STh* III, q. 3 is suggestive, and Wawrykow is right in this regard. Nonetheless, I would maintain that this parallel concerning the theme of Wisdom is even more marked in the *Prologue* of the *Commentary on the Sentences* than in the *Summa Theologiae*, for a fundamental reason: St. Thomas has deepened, while better inscribing it in the structure of his theology, the difference between the "necessary" existence of God as Trinity and the total gratuitousness of the economy of salvation. In paying careful attention to Christian experience, J.-P. Torrell presents an overview of the person of Christ in St. Thomas's spirituality (197-219). This spirituality is inscribed in the heart of the theological enterprise, for it is founded on the major speculative themes of St. Thomas's theology:

Christological exemplarism (which is ontological as well as moral), Christ's humanity as an instmment of his divinity, and deification by configuration to Christ. Furthermore, the study of E. H. Weber on Meister Echhart's Christology concludes that it can be seen as a prolongation of St. Thomas's (414-29); this contribution seems fundamental, since it establishes the profound continuity between the thought of St. Thomas and that of Eckhart, while recognizing all of Eckhart's theological density. The balance of Eckhart's thought rests on his coherent view of the hypostatic union, and on the divine identity of Christ and the Father, in the distinction of persons. The contributions of Torrell and Weber substantiate a central point of the spiritual theology of the Dominican masters: it truly embodies a spiritual or mystical dimension. It is not called spiritual or mystical because it rationalisticaliy separates theology from spirituality, as was done at the end of the Middle Ages. The Christology of the Dominican masters is mystical because it is grounded in a properly speculative approach to the mystery of Christ. This is one of the major impulses that the medieval Dominican tradition can still offer our contemporary tradition.

On a more historical level, S. F. Brown studies the question of the unity or duality of *esse* in Christ according to St. Thomas, as well as according to the first adversaries and defenders of Thomistic doctrine (220-37). It is well known that the problem of Christ's *esse* constitutes one of the most debated and controversial questions in twentieth-century Thomism. Brown's study is in this regard quite interesting, for it demonstrates that according to St. Thomas's adversaries his position affirms only one existence in Christ, while the Thomist tradition had elaborated a more nuanced view which affirms a certain *esse* in Christ's humanity, following the *Disputed Question De incarnatione Verbi;* this is the position of Hervaeus Natalis and other fourteenth-century Dominicans. Thus it appears that by leaving behind the doctrine of neo-Thomist manuals, the Thomism of our day has returned to the more nuanced position of the fourteenth-century masters! Still on the historical level, U. Horst examines the person of Christ as the model of the Preachers according to St. Thomas, following the chronological order of his works (256-70). The discussion crystallizes around the theme of Christ's poverty, in which the Dominicans dash with the Franciscans. This historical study demonstrates that, in St. Thomas's first works, the Christoiogical argument supporting the life of the Preachers is not very evident, but that it asserts itself progressively in his subsequent works, finding its summit in the *Summa Theologiae* III, q. 40. The impact of the Franciscan controversy here seems decisive, since Thomas does not uphold the absolute material poverty of Christ, but gives priority to the obedience and charity of Christ living amidst his own. This is without a doubt one of the cases where one perceives, in a more striking manner, the influence of the Dominican mode of life on St. Thomas's Christology.

Saint Thomas occupies a pride of place in this volume, but the other Dominicans studied are numerous: Jordon of Saxony, Hugh of Saint-Cher, Humbert of Romans, Vincent of Beauvais, Richard Fishacre, Robert Kilwardby,

Albert the Great, Rudolf of Schlettstadt, the Rhineland Dominicans, and so on. Other themes are equally treated, notably the articles of faith in the Dominican catechesis, the Dominican presence in Middle English literature, Christ in Dominican preaching on marriage, and the *Exemplar* in the German writings of Heinrich Seuse. It would take too long to address in a detailed manner this vast panorama of Dominican Christology; instead, I wish to pay particular attention to two contributions. First, E. P. Mahoney offers an original study of Christ's place in the hierarchical structure of the world, which St. Albert took from Pseudo-Denys (364-92). Albert is particularly attentive to recognize in Christ a superiority over all creatures, including the angels who are illuminated by him. One of the original contributions of Albert consists in associating the Virgin Mary in this superiority over the angels. But more profoundly Mahoney establishes that, in contrast to St. Bonaventure, for whom Christology and metaphysics are welded together, Albert does not make of Christ an element in the ontological structure of reality. Albert "bent the conceptual scheme of metaphysical hierarchy in order to bring it into line with the Christian economy of salvation" (382). Undoubtedly this is one of the important points where the Dominican tradition inaugurated by Albert breaks with the Neoplatonism of other theological traditions. This attention in Christology paid to the economy of salvation rather than to predetermined metaphysical structure seems to me to be essential for perceiving the originality of St. Albert, St. Thomas, and their heirs. Finally, I wish to note the contribution of M. J. F. M. Hoenen on the Christology of Heymericus de Campo, Nicolaus Cusanus, and the Cologne *Quaestiones vacantiales* in the fifteenth century (462-92). This study manifests the continued or revived interest in Thomas Aquinas's doctrine at the end of the Middle Ages, and at the same time the attempt to establish a new framework for thinking about Christ's centrality by authors nourished by medieval Dominican teachings about Christ. The fifteenth century seems in this regard to be a sort of first neo-Scholasticism, in a movement of tradition and renewal which has certain affinities with our contemporary situation.

In dosing, one can pose the question about the "Christocentrism" of Dominican theology, raised by the editors in their presentation of the book (1). It is too often the habit, in effect, to oppose the "Christocentrism" of Franciscan thought to the "theocentrism" of Dominican theology. If the medieval Dominican tradition is theocentric, it is certainly not at the expense of the central place of Christ. The Order of Preachers was born and developed at an epoch when attention to Christ's humanity in piety and theology was becoming more vivid. The Dominican masters shared this growing interest for Jesus' humanity, and took it into consideration in theology and spirituality, in their preaching and catechesis. But it is in focusing their vision on Christ's divinity that they were able to express the power of salvation of Christ's humanity; this holy humanity receives and possesses its universal salvific power because of its union with the divinity. We may think for example of the Thomist doctrine of instrumental efficient causality, which attributes to Christ's humanity an exceptional salvific value that had not been formulated

before Thomas, or of the Christology of St. Albert, Eckhart, and so on. Contrary to the oppositions that our contemporary thought cultivate, the theology of these Dominican masters can be called Christocentric, since it is theocentric in a coherent and unified speculative vision.

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God and Contemporary Science. By PHILIP CLAYTON. Grand Rapids, Mich.: Wm. B. Eerdmans, 1998. Pp. xii + 274. $25.00 (paper). ISBN 0-8028-44607-X.

Everyone now agrees that the dialogue between religion and science has become something of a cottage industry within academia, especially in the United States and Great Britain. Presses, both commercial and academic, spurred on by the phenomenal success of Stephen Hawking's *A Brief History of Time,* pour out books on the topic in such abundance that no one mortal can read them all. Universities, both state supported and religiously affiliated, sponsor conferences on the topic. And foundations, led by the extraordinary generosity of the Templeton Foundation, fund these conferences---conferences which are prestigious enough not only to presume to invite, but also magnetic enough to manage to draw, some of the most prominent scientists and theologians in the English-speaking world.

Anyone who has attended these conferences, however, or reads the papers that often get published later, cannot help but notice how much the dialogue still is primarily between scientists and theologians. Conspicuously noticeable by their absence are (for the most part) professional philosophers. A typical Templeton conference, for example, will boast scientists from the National Aeronautics and Space Administration, historians of science from the University of Wisconsin, theologians from the Graduate Theological Union in Berkeley, California, etc. But a John Searle or a Hilary Putnam, or even a Colin McGinn or a Richard Rorty? Not if published proceedings of these conferences are anything to go by.

This background to the religion-science dialogue might seem at first to be of only sociological interest. But in fact it points to one of the central dilemmas in the conversation as it is currently being conducted. The *essence* of the dialogue centers on issues that are almost all strictly *philosophical* in nature. Yet rarely does an outside observer of the debate in these conferences see any participant explicitly acknowledge this crucial fact. Indeed, one cannot avoid

the impression that the dialogue has stalled, running more or less on cruise-control, primarily because the dialogue-partners often do not realize that they are slipping, all unawares, into a specifically philosophical analysis. Of course, there is nothing to forbid a scientist or theologian from expressing philosophical views, but conversation never gets very far if one is doing that without realizing it.

Perhaps the greatest virtue of Philip Clayton's recent book is his realization that, as he puts it, "productive discussion between theology and the sciences requires finding some third playing field within which the similarities and differences between their two sets of conclusions can be brought to clear expression" (82-83), a playing field that only philosophy can provide. In the vast forest of felled trees that constitutes the religion-science dialogue, what a relief it is to read such a sentence as this: "Before we turn our primary attention to the doctrine of God's activity in the world in the light of contemporary science, then, it behooves us first to explore what kind of contribution philosophical reflection can make to the doctrine of God" (83).

For this reason, *God and Contemporary Science* represents that rarity in the field: an advance in the discussion that moves the entire dialogue onto a whole new level. And for this task the author is singularly well equipped: trained in Germany in the theology of Wolfhart Pannenberg and in the United States in philosophical theology, he brings to the discussion (at least from the theological side) a unique battery of competencies, moving with equal facility from the exegesis of Genesis and the natural theology of post-Newtonian theologians to the philosophical theology of Alvin Platinga and Nicholas Wolterstorff.

This means that, although he has no specifically scientific expertise to bring to bear on the discussion (he earned his doctorate in theology), the author can nonetheless spot any philosophical weakness in, say, a physicist who has in fact trespassed into philosophical territory without realizing it. *As* I implied above, there is nothing inherently wrong with a scientist speaking *in persona philosophica,* as in fact every human being must do-and does do-when wondering aloud about such fundamental issues as the contingency of existence, the role of chance in causal determination, etc. But what strikes me as being distinctly absent from the dialogue, insofar as my own eavesdropping on it is at all accurate, is an explicitly *methodological* awareness that the terms of the debate have shifted from the specifically scientific or theological .and onto the field of either natural theology or philosophical theology-or even hard-core philosophy of science (these three disciplines of course overlap, but that fact should not obscure the movement to them when theologians or scientists move out of their own disciplines into what is in fact the real venue of their debate: philosophy).

Clayton's educational background has given him an uncanny ear for picking up just where the real issue is located-and how often other participants in the discussion end up by missing the point because they are, in effect, talking past their interlocutors. For example, the author is one of the few who will say outright that "the discussion between theology and science today is concerned

[most fundamentally] with the presumption of naturalism; where it is not, it perhaps ought to be.... [But] it is surprising to note how often treatments of divine agency overlook the importance of this presumption" (171). As one reads further in Clayton's analyses, it becomes clear that naturalism (meaning here, the doctrine that every event in nature is caused by nature) is so crucial precisely because the issue of *causality,* specifically divine causality, is itself so crucial-perhaps the most fundamental issue in the entire debate. No wonder, then, that all roads in the religion-science debate lead to philosophical and/or natural theology. For only here can this important issue be resolved.

Clayton himself is clearly drawn to the proposals of the Anglican priest-physicist Arthur Peacocke, whose panentheistic interpretation of the God-world connection is deeply attractive to him. While remaining alert to its dangers, Clayton draws on the analogy of the influence of the human mind on its body to explain God's causal relationship to the world. For this reason he seems to be drawn to Peacocke's proposals more than to those of any other author; he describes this position in these words: "According to Peacocke, then, we can never locate a locus of divine action within the interstices of the world and then conceive of it being amplified to affect cosmic history. If God is to act providentially at all, the influence will move not from the part to the whole but from the whole to the part. This he calls . . . 'top-down' causation or 'whole-part constraint'" (222).

The difficulties with this view seem all too obvious, especially for a Christian theologian who would want to posit a much more radical break in God's intervention with the Incarnation (or with the events of salvation history more generally), for the top-down, mind-body analogy implies a continuum of cause-effect that seems to leave no room for extraordinary interventions or manifestations of God's strict otherness in history. Perhaps this idea is nevertheless at least a partial solution; and the author is certainly right to point to its orthodox pedigree (he tellingly quotes Thomas Aquinas's assertion in the *Summa Theologiae* I, q. 93, a. 3 to the effect that "We find a certain imitation of God in man ... in that all man's soul is in all his body and again all of it is in any part of the body; in the same sort of way as God is in the world"-which certainly would undergird at least part of Peacocke's and Clayton's panentheism).

Despite these virtues, however, my central difficulty with the last two chapters (where the author advances his own solution) comes from two areas. First, it seems odd that Darwinism (or biology in general) never captures the engagement of the author the way physics does (the book's title therefore seems misleading). This seems particularly odd given the fact that *naturalism* is Clayton's central focus. For to the extent that naturalism has gained a near total grip on the secular imagination, it comes more from biological than physical naturalism. Recent aggressive arguments for the naturalist creed come almost entirely from dogmatic Darwinians, such as those famous advocates from the law firm of Dewey, Dennett, Wilson & Dawkins; and without an

engagement with their arguments for naturalism the book seems oddly truncated.

Within that central dilemma of panentheism vs. naturalism another issue also looms without ever getting the kind of treatment it deserves: teleology. Leaving aside the validity of the specific arguments for design advocated by recent anti-Darwinian spokesmen such as the biochemist Michael Behe and the mathematician William Dembski, there is a peculiar absence of any treatment of teleological issues throughout this book.

Of course, these last two chapters come after an intense diagnostic analysis of the contemporary dilemma and are thus clearly meant only to get the conversation off the dime. The debate has really only just begun, as the next century will no doubt witness. We can certainly be happy that one of the last contributions of this century to the dialogue will be one that will continue to resonate and echo well into the next.

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Faith and Understanding. By PAUL HELM. Grand Rapids, Mich.: Wm. B. Eerdmans, 1997. Pp. viii + 212. $26.00 (paper). ISBN 0-8028-4451-0.

This book, which has been touted as "the first book-length study of the 'faith seeking understanding' (FSU) program," appears in a series on Reason and Religion, of which the present author is also the series editor. Instead of attempting a history of the faith-seeking-understanding tradition, Helm undertakes to set up the philosophical issues involved in using reason to develop faith and then to present a series of "case studies" which effectively show how diversely conceived and executed the project has been through the ages. Yet while philosophical in its approach, the book is aimed at students and "educated general readers" and pitched at an introductory level, an aim well served by Helm's clear and patient exposition. The exposition is also marked by an impartiality on the author's part so scrupulous that the reader catches only glimpses of Helm's own views beyond his general sympathy with the project and occasional critical remarks on various recent discussions, including those of Kretzmann, Hoitenga, and Plantinga.

The book is organized in two parts. The first part consists of three chapters which lay out the epistemological issues relevant to the problem of relating faith and reason. The second part, which takes up roughly the remaining two-thirds of the book, is made up of case studies devoted to Augustine on time and creation (chap. 4), Anselm on God's existence and the Incarnation (chaps.

5 and 6), Jonathan Edwards on original sin (chap. 7), and Calvin on the *sensus divinitatis* (chap. 8). The appearance that the last chapter breaks the historical order is, however, only an appearance, for Helm uses Calvin primarily as a springboard for discussing Reformed epistemology, and especially Plantinga's contribution.

Helm explains in the introduction that "faith seeking understanding is an attempt to articulate faith, to elucidate its metaphysical, epistemological, and ethical implications" (vii). In chapter 1 he turns directly to the epistemological dimension, and gives what is perhaps his most succinct definition of FSU: "The chief feature of faith in 'faith seeks understanding' is that although it is essentially incomplete . . . the intellectual and evidential basis of faith is capable of being augmented by a process of reflection and investigation in which reason is necessarily employed, and that this process is inherently desirable and appropriate" (15). In addition, FSU has been characterized by a nonreductive view of testimony in acquiring knowledge, where confidence in the word of others (whether human or divine) is required to gain certain kinds of knowledge. Finally, Helm notes that FSU thinkers probably practice a certain measure of "methodological insulation" in accepting or assuming the truth of propositions that form the starting-point of the exercise (24), yet he finds this practice philosophically "innocuous" and perhaps even necessary.

The first chapter deals with the terms of the problem, including how exactly reason is to be defined, how faith is to be understood, and what relation may be found between them in the FSU project. Helm assembles the conceptual tools that will be needed by FSU thinkers as follows. Reason is to be distinguished into substantive and procedural senses; while the former makes a claim to certain nontrivial truths, the latter provides a means of reaching new truths from those already established. In contrast to the Enlightenment view, which requires faith to pass reason's test of self-evidence, the FSU approach sees philosophical reason not as a threat but as an aid to faith (3). Christian treatments of faith fall broadly into three views, according to which faith is either (a) an "evidential gap-bridger or make-weight" (12), (b) a measure of assent proportioned to the evidence for the beliefs it comprises, or (c) a state of conviction whose genuineness or appropriateness has nothing to do with evidence. Only this last view, associated especially with Tertullian and Kierkegaard, falls outside of the FSU tradition.

In chapter 2 Helm reviews briefly the history of the FSU tradition, beginning with Augustine's felicitous misconstrual of Isaiah 9:7 ("If you do not believe, you will not understand") and Anselm's adoption of the Augustinian project under the slogan of *credo ut intelligam.* But the meat of the chapter consists in the attempt to relate FSU to natural theology, a task for which Aquinas is called upon. Relying perhaps too heavily on Wolterstorff for exposition, Helm argues that Aquinas belongs to the FSU tradition because he begins with faith; even the Five Ways are "an expression of faith seeking understanding" (31), inasmuch as demonstration of the existence of God

(already held on faith) is itself a pursuit of understanding (much as in Anselm's *Proslogion* argument). Helm also reviews and criticizes the views of Kretzmann (36-42) and Hoitenga (42-47), before considering briefly Plantinga's "positive Christian philosophy" and Wolterstorff's attempt to extend the understanding that faith makes possible to "any aspect of God's creation and of human culture" (49). Kretzmann's claim that it is "just not true" that one has to believe a proposition in order to understand it points up the need to distinguish propositional faith from the "way of faith." Hoitenga stresses the requirements of the way of faith, wherein a "direct knowledge of God already naturally possessed" grounds the whole FSU project, while Kretzmann concerns himself more with the epistemological project of showing the coherence and credibility of faith. Helm suggests that it may be desirable to "combine both approaches" (47), but does little to spell out how this may be done. He seems to hold out hope that Plantinga's approach may be best able to bring FSU and natural theology together again, but one must wait until the last chapter of the book to see how this is.

In chapter 3, Helm turns his attention to a "radically different conception of religious understanding" (75) from that found in FSU. His focus here is on D. Z. Phillips, who does not share the commitment to a realist conception of truth that has characterized the FSU tradition. Phillips holds instead that the statements of faith can be understood and judged only within the language game of religion. Thus he virtually identifies faith and understanding, since only believers can understand religious truth. Oddly enough, Helm credits not the later Wittgenstein for inspiring this position, but Kant (68). Nevertheless, despite some interesting points of contrast (e.g., on petitionary prayer) between Phillips and FSU, devoting an entire chapter to a view clearly opposed to the tradition at issue seems excessive to make the simple point that FSU thinkers in the Augustinian mold typically hold a realist metaphysical conception of truth, which in turn requires a distinction between faith and understanding.

The five case studies that make up the second part are too rich to permit a facile summary. Among the highlights are a comparison of Augustine's and Hawking's theories on the beginning of time (90-93), a critique of Barth's interpretation of the *Proslogion* as a "piece of revealed theology" (117-18), and a painstaking analysis of Jonathan Edwards's position on personal identity by means of temporal parts, which invites comparison with Quine (155) and Chisholm (156-57). The burden of the discussion of Edwards is to ask whether sufficient unity may be established between Adam and his fallen progeny to explicate the doctrine of original sin while at the same time maintaining that there is no strict numerical identity of an individual even with *itself* through time. If Edwards's rather extreme and "counterintuitive" (174) view emerges as a less than satisfying execution of the FSU project, those interested in the problem of personal identity will probably still find the comparisons of Edwards with Locke and Reid interesting. In the final chapter, Helm charts Plantinga's evolution from internalism to externalism by means of reflection on

Calvin's doctrine of the *sensus divinitatis.* Strangely, after largely forgoing an analysis of Calvin himself, Helm exercises himself over whether Plantinga has been faithful to Calvin's inspiration (197-200). Yet if Plantinga really has interpreted the FSU project "more radically and more ambitiously" (203) than Augustine or even Anselm, surely he may be allowed a certain latitude in interpretation of the religious tradition in which he stands.

Helm's choices for the case studies, while providing at least a snapshot of patristic, medieval, Puritan, and contemporary thought, do of course leave some major stones unturned. One of the most puzzling omissions is Aquinas, who is claimed by Helm for the FSU tradition in the first part (see, e.g., 17), but not given separate treatment in the second part (except 183-84, where Aquinas is given over to Plantinga's interpretation of him as a foundationalist). Since Aquinas's Five Ways are in some sense likened by Helm to Anselm's search for *rationes necessariae* concerning God's existence (30-31), a case study of Aquinas might well have made an instructive contrast with the chapter on Anselm's *Proslogion* argument. For much as Aquinas argued that Anselm provided a believer's meditation on the nature of God's existence rather than a demonstration acceptable to all, some contemporary interpreters (including Helm, apparently) read the Five Ways as addressed to believers as much as to nonbelievers.

Helm's book, and especially the first part, should be useful to upper-level students in philosophy of religion. Some orientation to the first part would be helpful to those venturing into the case studies, but since there is little connection between the various studies, a reader concerned with only one of them need not delve into the other chapters. If this is a criticism, the structural weakness that it points up is the lack of a conclusion to the book. There is no place where the results of these isolated investigations can be drawn together and evaluated. This results in part from Helm's decision to analyze and summarize (which he does quite well) rather than critically appraise each approach with a view to developing a most adequate version of the FSU project. It would have been most interesting to see how Helm might apply the major lessons of the historical studies to the contemporary state of the problem as laid out in the first three chapters. As it stands, it appears that Helm has left this task as a formidable exercise for his readers.

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Christian Totality: Theology of the Consecrated Life. By BASIL COLE, O.P., and PAUL CONNER, O.P. New York: Alba House, 1997. Pp. 336. $18.95 (paper). ISBN 0-8189-0798-3.

The revised edition of this book appeared in 1997 and has gone largely unnoticed by theological and religious reviewers. In its first edition (Bombay: St. Paul Publications, 1990), the text was perhaps too narrow, but in its present form it provides what is probably the most comprehensive theological manual on the consecrated life today. Coauthored by two theology professors, the book skillfully integrates theological themes with documents of the magisterium in such a way as to restate the classical theology of the consecrated life in a manner accessible to the contemporary reader. Firmly grounded in the theological perspective of Vatican II, the revised edition pays careful attention to the provisions of the 1983 *Code of Canon Law,* the post-synodal exhortation *Vita consecrata,* and other documents pertaining to the religious and consecrated life issued over the last thirty years. For this reason, as well as for its style, I refer to the work as a "manual," for it contains, in summary fashion, a comprehensive understanding of the consecrated life from "scriptural, historical and theological perspectives." For good measure, the authors include a good bit of sensible pastoral guidance, particularly in the sections on the three evangelical counsels.

The vision of the "vowed life" portrayed in *Christian Totality* is that of an all-encompassing way of life. Based not on moral obligation, but on God's initiative and the mystery of transformation in his love, the authors draw upon the theology of the "states" of life to explain how religious profession places one in a new relationship with God. All of the observances of that *way of life* are ordered to the transformation of the person into the likeness of Christ, and in Christ to contemplate the Father. In their insistence on the centrality of the life of virtue and the relationship between virtue and vow, the authors manifest their clear reliance on the teaching of St. Thomas. While their account of the vow of obedience is less emphatic regarding its sacrificial nature, they are always fundamentally in accord with the Angelic Doctor (cf. *Summa Theologiae* 11-11, q. 186, aa. 5, 7, 8).

Given Conner's and Cole's Thomistic background it is important to note their careful and even-handed portrayal of other lines of thought and traditions, which makes the book useful to a wide range of persons and traditions. Perhaps the best example of this is found in the chapter on obedience. Building on the biblical data, and teasing out a theology of consecrated obedience, the authors are careful to portray the various traditions of obedience with accuracy and respect, while never relinquishing their basic Thomistic orientation. They view obedience as the central act of religious consecration, embodying "a religious attitude of wholehearted, unconditional cooperation with and submission to the saving plan of the Father, even when it confounds human judgment" (176).

The authors claim that the heart of the book is to be found in their treatment of the evangelical counsels of chastity, poverty, and obedience. It is here that they are at their best. Their positive theology of the vows is clear and serves as a corrective for the more negative accounts of the post-Reformation era and the confused explanations found in some contemporary books on the religious life and the vows. The wide range of material included in the text, from biblical and patristic reflections to historical references drawn from the ancient and medieval periods, evidences scholarship and a breadth of theological perspective. In an age preoccupied with matters sexual, the exposition of the vow of chastity (75-110) is especially helpful. The underlying anthropology here, a mixture of St. Thomas and John Paul II, renders a view of the Christian person vowed to chastity as creative, productive, and optimistic. There is no doubt, in their theological view, that humankind has been made for happiness.

While the authors are careful to respect the current distinction between religious life and other forms of consecrated life, particularly secular institutes and societies of apostolic life, their principal intention is to address institutes of religious life. The eight chapters are laid out in logical order with an introductory section on the vocation of the lay faithful *(Christiftdeles laici)* and a concluding chapter on the ministerial priesthood *(Pastores dabo vobis).* This structure suggests the attempt to bring together a Thomistic theology of the vows with the teaching of John Paul II on the various states of life. The dialectic between the traditional Christological understanding of the religious life and the more explicit Trinitarian understanding of recent times is a thread that runs through the whole of *Consecrated Totality.* The addition of well-developed endnotes and a brief bibliography provides a full tutorial in the consecrated life.

The inclusion of the chapters on the lay faithful and the ministerial priesthood attempts to provide a fuller context for reflection on the consecrated life, but may weaken the focus on the central thesis of the book. This is particularly true of the treatment of the priesthood which includes considerations drawn from the Constitutions of the Order of Friars Preachers. While valid and insightful, this specifically Dominican slant limits the appeal of the book in the wider Church. It is likely that the same project could have been carried out without the specifically Dominican references.

For all its strengths, the book has some flaws. The style of the text is close to lecture notes and the repetition typical of academic pedagogy. The labored logic found, for example, at the beginning of chapter 2 (31) references the contents of the previous chapter, suggesting a lapse of several days between classes rather than the distance of one page between chapters. The overview of the chapters found both early in the book (12) and again by way of summary at the end (359-64) is simply unnecessary.

The book is somewhat cumbersome to use because the structures of the chapters are not consistent. For example, chapters 4 and 5, dealing with poverty and obedience respectively, are divided into two sections, "Scripture

and Tradition" and "Theological Reflections." Curiously, chapter 3, on chastity, is not so divided. There are a number of similar peculiarities of organization that distract the reader or make following the line of argument difficult.

More puzzling are the unusual "words" employed throughout the text, for example *capacitated* (16), *intercomplimentarity* (21), and *misassumed* (42). This distraction is compounded by the odd use of hyphenated expressions, for example, *part-mysteries* (12), *birth-event* (16), *mission-activity* (24), *charity-love* (65), and *Tri-personal* (169), which are oxymoronic at best.

Some of the expressions project a slightly naive image of the authors. Their optimism about the future of consecrated life in the preface lacks an exegesis of cultural awareness and evaluation (e.g., the numbers of vocations in developing countries must be examined in the light of human cultural advancement and existing resources for proper religious formation [11]). Many readers may find the laudatory comments about the theological contribution of John Paul II somewhat hyperbolic (39).

A seasoned veteran of the consecrated life might question the uniqueness of this text, but to post-Vatican II Catholics it represents an important link with the tradition. For younger members of institutes of consecrated life and prospective candidates, *Christian Totality* recapitulates the classical teaching on the vows, community life, the apostolate, and the meaning of consecration, in harmonious continuity with recent ecclesial insights and developments. This is a book worthy of note and could well serve as a basic text in any formation program. It draws together many strands of the tradition and successfully relates them to current magisterial teaching on the consecrated life. The authors have provided a great service at a time when religious life in so many parts of the world is at a crossroads.

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Christian Spirituality and the Culture of Modernity: The Thought of Louis Dupre. Edited by PETER J. CASARELLA and GEORGE P. SCHNER, S.J. Grand Rapids, Mich.: Wm. B. Eerdmans, 1998. Pp. xii + 352. $28.00 (paper). ISBN 0-8028-4590-8.

Louis Dupre has written on an impressively wide variety of philosophical, cultural, and religious topics. His intellectual portfolio includes Hegel, Marx, Kierkegaard, Rhenish and other varieties of mysticism, Scholastic and post-Scholastic philosophy, the relation between aesthetic and religious

experience, the ethical enormity of abortion, and that amorphous continent of puzzles he has called "the shape of modernity!'

Throughout this gamut, however, run three leitmotifs. One is the theme of transcendence-another large, amorphous topic that, as Dupre noted in his book *The Other Dimension* (1972), assumes "various meanings in different contexts." Dupre has devoted himself particularly to the erosion of religious transcendence that, depending on how one approaches the issue, is either the motor for or an expression of modernity and the triumph of scientific rationality. "Our predicament," he wrote in *Transcendent Selfhood* (1976), is due not to a lack of faith but to a lack of inwardness. To profess a belief in God and to observe certain rules of ritual and moral conduct is not sufficient to regain it. Faith itself is permeated by objectivism. What is needed is a conversion to an attitude in which existing is more than taking, acting more than making, meaning more than function-an attitude in which there is enough leisure for wonder and enough detachment for transcendence.

The nature of that desired attitude brings us to the second leitmotif in Dupre's work: the theme of passivity, what Heideggerians call *Gelassenheit* ("letting be") and the rest of us might approach by talking about "grace." Throughout Dupre's work we find the conviction that "in denying passivity and dependence we have excluded a deeper !eve! of existence." What we might call the active side of this return to passivity expresses itself in a revolt against objectivism-against the attitude that nature, including human nature, is material to be formed and manipulated according to human designs. Descartes gave classic expression to this attitude in his *Discourse on Method* when he promised that his "practical philosophy" would uncover the basic mechanical principles of natural phenomena and thereby render mankind "the masters and possessors of nature." Descartes was dearly right about that, but the downside, as Dupre puts it in *Passage to Modernity* (1993), is that "in the course of assuming control over everything else the self has ... lost sight of its own identity."

The question of what the ultimate nature of that lost identity might be leads to Dupre's third leitmotif: the theme of integration or (since we are talking about something that has been lost) reintegration. Until recently, Dupre has been something of a "maximalist" about this. "If religion loses its power to integrate other values," he wrote in *The Other Dimension,* "it will cease to exist. Faith is either the all-integrating factor of life or nothing." Rather a stringent declaration, some might think, especially taken in conjunction with the themes of patience, openness, and passivity. In fact, there is a certain oscillation in Dupre's thinking about religion as a "binding" force that can integrate all of life's many facets and values. Especially in recent years, he has tended to downplay the all-or-nothing theme in favor of what he refers to as a "provisional synthesis." Perhaps this is just *faute de mieux.* In any case, he has more and more come to favor the word "fragment." "While anxiously seeking a new wholeness," he writes at the end of *Passage to Modernity,* "we must nevertheless carefully protect those fragments of meaning that we possess,

knowing that they may be the bricks of a future synthesis." Of course, a "fragment" is by definition a piece of something broken. A fragment of a papyrus can be revelatory. But what about the sort of existential meaning Dupre invokes? Is meaning in this sense really "divisible"? It is not clear that Dupre has made up his mind about this.

Transcendence. Passivity. Integration. These are abiding themes in Louis Dupre's work. They even inform his treatment of Karl Marx. One needn't agree that Marx formulated an important "critique of objectivism" or that (as Dupre put it at the end of *Marx's Social Critique of Culture* [1983]) he "considerably contributed to the expansion of the democratic ideal" to appreciate the pathos of the sentiment behind such judgments. As the editors of this volume remark in their introduction, Dupre's work is "suffused with an irenicism" (3) that makes him a most companionable guide through the thickets of intellectual history. It is one of the distinguishing marks of his work-and a chief inspiration, surely, for the tokens of homage that make up this book-that he has "never separated painstaking scholarship from a simple grasp of the essential" (1). "Detachment" may be a "universal requirement of spiritual life," as Dupre remarks at the end of *The Other Dimension,* but a sense of existential engagement is one of the chief things that has made his work a vital resource for admirers.

The editors insist that this book is "not a Festschrift," (5) but this is disingenuous. Some of the contributions are distinctly *un-festlich,* to be sure. But if a Festschrift is "a volume of learned articles or essays by colleagues and admirers, serving as a tribute or memorial esp. to a scholar," then *Christian Spirituality and the Culture of Modernity* will do until the real thing comes along. The book consists of fourteen essays by colleagues, peers, and former students. They deal with everything from Neoplatonism and early Renaissance philosophy through Schelling, the doctrine of analogy, and the "theological aesthetics" of Hans Urs von Balthasar. The best contributions are those that explicitly discuss Dupre's work or that carry on in a spirit continuous with his example. Anyone looking for an introduction to Dupre's religious thought should read George Schner's essay "Louis Dupre's Philosophy of Religion: An Indispensable Discourse on Fragments of Meaning." It is by some distance the longest piece in the book and provides a careful and informed appreciation of the development of Dupre's distinctive brand of philosophical meditation on religious themes.

Some of the essays in this volume are marred by that disfiguring polysyllabic patois that is all too common in the academy today. In the essay on von Baithasar, for example, we encounter many, many sentences like this: "As von Balthasar contests Heidegger's excessively teleological Holderlinian view of nihilism in which eclipse seems to have the status of fatum, here he critiques a radically distelelogical view in which the very possibility of normative judgment is dissolved" (158). Orth is: "Von Balthasar highlights also, as does Heidegger, the subjectivization of reality and thus all discursive forms,

one of the invidious effects of which is the deontologization of beauty, which means, of course [!], nothing less than its erasure" (126).

The saddest thing about this opacity of language and concept (with its excessive dependence on Heidegger and Derrida) is how unfair it is to von Balthasar. The latter passage refers to *Seeing the Form,* page 22, the first volume of von Balthasar's magisterial meditation on the fate of beauty. But there is nothing about "erasure" or "deontologization" there. In that section Balthasar speaks instead about what happens "in a world without beauty" when "man stands before the good and asks himself why *it* must be done and not rather its alternative, evil." Only a few of the essays in this volume suffer from such academic obfuscation, but several others harbor a certain weakness or admiration for it.

Still, there are some excellent things in this volume. Michael Buckley's "Modernity and the Satanic Face of God," for example, is an ingenious but disconcerting reflection on the way the development of human freedom has not only led to the rise of atheism but has also sparked one of the "fundamental reversals of the sacred in the history of religion" (101), a reversal in which the divine appears as the diabolical, inimical to human nature. It is not a cheerful piece. "What is the future of religious ideas, of God?" Buckley asks toward the end of his essay. "Marginalization and extinction. There will be an increasing turning away from religion as human beings develop in their rationality, and to inhibit this disengagement would be to inhibit that human development" (120).

Also noteworthy is "Art and the Sacred: Postscript to a Seminar," in which Karsten Harries revisits a course that he taught with Dupre at Yale in 1975. Harries helps to clarify what is at stake in the notions of transcendence and integration. Granted that religious experience involves transcendence, one still must ask about the nature of that transcendence: "Just what is being transcended? Temporal reality? Reason? The dynamism of religious transcendence," Harries writes, "especially when one adds the attribute 'infinite,' carries with it the danger of a radicalization of transcendence that threatens to so empty it ... that mysticism and atheism coincide" (193-94). The more extravagant one's conception of transcendence, the more apophatic will be one's understanding of religious experience. Harries makes a similar point about the hankering after integration. Is there not a point beyond which the dream of integration points not to self-fulfillment but to both self- and world-abnegation?

A curious feature of many of the essays in this volume-several of which are by clerics-is the extent to which they have accepted Nietzsche's (and therefore Heidegger's) judgment about the impossibility of God. Again and again in this book we are assured that religious belief today is on a starvation diet: consigned to rooting around among scraps of civilization for what meager nourishment it can find What makes this especially curious is that the gloominess of the diagnosis seems directly proportional to the level of religious rhetoric: the more religiose the rhetoric, the worse the situation is said to be.

One can imagine an impolite and perhaps philistine critic asking, "Why take the pronouncements of a megalomaniacal, God-obsessed madman so seriously? Why should three or four passages from Nietzsche, repeated like so many mantras, be held up as proof of the impossibility of authentic Christian faith in A.D. 2000?" G.K. Chesterton put it succinctly: "Some dogma, we are told, was credible in the twelfth century, but is not credible in the twentieth. You might as well say that a certain philosophy can be believed on Mondays, but cannot be believed on Tuesdays."

In among the abundant hand-wringing about what the editors refer to as our "present crisis," there is also a salutary quantum of talk about salvaging some vestige of hope from the ruins. I think that the hope-talk ought to be encouraged It is easy to bewail the fragmentary, contingent nature of life in the modern age. Yet that fragmentation and contingency apply not only to the modern age, but to all ages. They are simply part of what it means to live in time. Time is the rock upon which all hopes founder, but it is also a condition of the operation of grace. A fragmentary life isn't everything, but it is better than the alternative, which is nothing. Toward the end of *The Other Dimension,* Louis Dupre observes that "in spiritual life certainly the rule holds that one possesses as much as one is willing to lose." That is undoubtedly true, and it reminded me of the passage in J.F. Powers's novel *Morte D'Urban* in which Father Urban preaches about God as "the Good Thief of Time,"

> accosting us wherever we go, along the highways and byways of life. So, in light and darkness, as children, as young people, as old, we meet Him. And bit by bit we are deprived of our most precious possessions, so we think, our childhood, our youth, all our days-which, though, lest we forget, we have from Him. We try to hold back what we can, have a secret pocket here, a slit in the lining there, where He won't look, we think, but in the end we give up everything, every last conceit. "That's all, Lord," we say. "No," saith the Lord. "What else, Lord?" "You," saith the Lord. "Now I want you." Thank God he does.... *who could ask for arrything more?*

The message, I think, is "Cheer up!"

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The New Criterion
New York, New York

Cassian the Monk. By COLUMBASTEWART. New York: Oxford University Press, 1998. Pp. xv + 286. $60.00 (cloth). ISBN 0-19-511366-7.

The Monastic Institutes. Translated by JEROMEBERTRAM. London: The Saint Austin Press, 1999. Pp. xiv+ 193. $26.95 ISBN 1-901157-04-0.

John Cassian: The Conferences. Translated by BONIFACERAMSEY, O.P. New York: Paulist Press, 1997. Pp. xv + 886. $39.95 (cloth). ISBN 0-8091-0484-9.

John Cassian is the fifth-century monk who is credited with bringing the monastic wisdom of the Egyptian desert to the West. His writings were first translated into English at the end of the last century, but the Victorian translators, distressed by Cassian's explicit discussions of sexuality, omitted three books. No complete English edition of Cassian was ever done-an omission which now is being rectified by efforts on both side of the Atlantic. The Saint Austin Press plans a new translation of Cassian's entire corpus: the monastic writings first and then his less influential *De Incarnatione.* Paulist Press plans annotated translations of the monastic texts. Saint Austin's *Institutes* and Paulist's *Conferences* have already appeared In a happy coincidence, Oxford Studies in Historical Theology recently issued a new monograph on Cassian's monastic theology.

Nothing in English offers a fuller appreciation of Cassian than *Cassian the Monk.* Writing both for those drawn to monastic spirituality and for students of the early Christian period, Columba Stewart focuses on what he judges "the most central and distinctive aspects of Cassian' s monastic theology," namely his teaching on sexuality and on prayer. Stewart's treatment of these follows three introductory chapters on Cassian the monk, the writer, and the theologian.

Stewart begins with an overview of Cassian's life and work. Outside sources tell us little about Cassian, and his writings reveal only what his objectives require. Stewart discusses various hypotheses regarding Cassian's origins and follows his sojourns though Egypt, Constantinople, and Rome to Gaul, where he founded two monasteries, was an esteemed a monastic teacher, enjoyed an extensive network of ecclesial contacts, and took active part in the semi-Pelagian and Nestorian controversies. Stewart finds more biographical information in Cassian's writings than others, handles data carefully, and argues persuasively. The elusive Cassian emerges an impressive man.

Chapter 2 discusses the monastic corpus, relationships among volumes and books, and Cassian's language, style, sources, and pedagogy. Noteworthy is Stewart's proposal that the fourfold schema of literal and spiritual meanings provides a way to understand Cassian's literary intentions and characters: *historically,* Cassian described his experiences as a young monk in Egypt; he used historical monks *allegorically* to lead his readers "to true doctrine and traditional monasticism"; *tropologically,* he desired to teach Gallic monks how to live monastic life; and *anagogy* drives the whole, for the goal of monastic life is the eschatological vison of God. Stewart also maintains that Cassian intended certain terms allegorically. "Anchorite" designates not the literal hermit, but

the contemplative a cenobite hopes to become. This creatively, and probably correctly, explains a problem that has long vexed scholars: Cassian claims that the *Institutes* describe cenobitic life and the *Conferences* anchoritic life, but the texts raise serious questions about his assertion.

Chapter 3 presents the *Conferences* as a collection of maps charting the pilgrim monk's way across the vast expanse of earthly life to his ultimate destination, heaven, and explores three successive paths that Cassian repeatedly charts: the quest for purity of heart, dedication to contemplation, and anticipation of heavenly beatitude. Important aspects of this chapter are Stewart's demonstration that Cassian's monastic theology is Christ-centered and eschatologically oriented. Particularly helpful for students of the history of spirituality are sections on the philosophical and theological sources of Cassian's teaching on ascesis and contemplation.

Chapter 4 is a comprehensive examination of Cassian's instruction on sexual matters and his theology of grace-for Cassian always discusses the two together. Stewart's exposition is excellent not only for its precision and depth, but because he situates Cassian's sexual teaching in the larger context of his monastic theology and its methodology. The centerpiece of Cassian's ascetical theology is the pursuit of perfect chastity, though he consistently insists that chastity's realization is always a divine gift. For Cassian, movements of the body, particularly in unguarded sleep, reveal the state of the heart. Thus, in his incarnate spirituality, perfect chastity is the graced transformation of the innermost person manifest in the body which, he believes, always follows the heart. Stewart helpfully explains Cassian's seeming denigration of marriage in the light of his theological principles, successfully refutes modern scholars who claim that Cassian's ascetical program starves monks into sexual stillness, and exhibits extraordinary sensitivity to the allegorical and anagogical implications of Cassian's instruction. Especially winning is the way Stewart's discussion of sexuality emulates Cassian's own frankness and delicacy.

The three remaining chapters are devoted to Cassian's teaching on prayer. Stewart's handling is original, beginning, necessarily he says, with Cassian's teaching on scriptural interpretation because the Bible is the medium of the monk's encounter with God. Crucial is the undergirding theology of the word: Scripture is the word of God which reveals Christ, the Word, in every part, but only to those who see beyond the literal text to the spiritual mysteries contained therein. The object is to pass beyond the earthly Christ and to "see God" through encounter with the glorified Lord. This theology is key to appreciating Cassian's tragic portrayal of the anthropomorphite monk *(Con{*. 10: "On Prayer"): biblical literalism has rendered him incapable of contemplating divine nature--the goal of monastic life.

Chapter 6 examines methods of using the Bible for prayer, first in the earlier Egyptian traditions and then as Cassian appropriates them. For Cassian, the ascetical use of Scripture (reading and meditation) progressively yields greater insight, interiorization of the text, purity of heart, and, as the heart becomes purer and more focused, unceasing prayer. His commentaries on the

four kinds of prayer, the Lord's Prayer, and monologistic prayer chart ways to the goal of unceasing prayer.

The final chapter is a tentative exploration of the most distinctive aspect of Cassian's spiritual teaching: the emphasis on ecstatic experience. Stewart examines Cassian on ecstasy, compunction, and tears and demonstrates striking affinities with Diodochus. Both writers creatively integrated Evagrian spirituality with the kataphatic spiritual tradition typified by Pseudo-Macarius. If Stewart is right, Cassian brought not only Evagrius to the West, but also Syrian affective, experiential mysticism.

The book's 286 pages are evenly divided between the text (seven chapters, afterword and appendix), and supporting materials (notes, bibliography, general index, an index of Latin and Greek words, and separate indices of citations from Scripture and Cassian's writings). The table of contents lists topical subdivisions within chapters. The general index is comprehensive. Stewart's prose is graceful throughout, though a few typographical errors escaped correction. Potentially most confusing is the citation of *Conference* 6 for *Institute* 6 on pages 33 and 35.

Cassian the Monk sets a new standard for Cassian studies. Stewart writes "as a monk about a monk" whom he has found "stunningly relevant for modern monastic Christians" and communicates that relevance splendidly. His study is a model of fruitful penetration and wise appropriation of a classical Christian writer. The depth of Stewart's insights and the tremendous wealth of information he has economically tucked away in the notes make it unlikely that his book will be surpassed any time soon.

Jerome Bertram's translation of the *Institutes* is the first volume in the Honeycomb Series, which aims "to provide sound spiritual reading ... by publishing long out of print or previously unpublished spiritual classics." The book bears a *nihil obstat* and *imprimatur*. It is attractive, durable, comfortable to hold, and has a ribbon to mark one's place. There is an introduction by Bertram and a table of contents, but no notes or indices. Scriptural citations appear parenthetically in the text. The chapter headings are a nice feature, but the book's user-friendliness is greatly diminished by page headers which do not identify individual books and by the absence of a subject index.

Bertram, a priest of the Oxford Oratory, offers his volume to the laity, following the lead of St. Philip Neri, who read Cassian to young lay audiences. His charming introduction develops an analogy originally formulated by Cardinal Newman. There are two main approaches to spirituality in the Church with correspondingly different strategies for prayer, virtue, etc.: one is Athenian and the other Spartan. Bertram offers sexuality as an example. Cassian, an Athenian, talks "frankly about sexual sin," suggests practical ways "for breaking bad habits," and "encourages us to defuse the situation by cheerfully recognising that chastity is a gift from God which will be granted once we stop worrying about it and accept that we cannot reform ourselves by sheer will power." Spartans rather not talk about it, assuming "you have dealt with that problem on your own." For Cassian, the attainment of chastity

is more involved and less sure than Bertram makes out-indeed, they understand different virtues by the one name. Still, Bertram's presentation of Cassian as a man who speaks candidly about things which many find too embarrassing to mention galvanizes attention, and two bits of advice in the introduction make Cassian more accessible to beginners: the second part of the *Institutes* (on the vices) is more useful than the first, and first-time readers would do well to begin with book 4.

His translation reads beautifully. The spirited prose appealingly communicates the gist of Cassian's spiritual wisdom, though not its technical precision. *Gastrimargia,* for example, becomes "greed," *acedia* "depression," and *cenodoxia* "conceit"-though not uniformly throughout. In at least one important place, *ratio* is "value," *facultatibus suis* "to his passions," *continentia* "chastity," and *discretio"will."* Bertram's is, perhaps, best described as a "dynamic equivalence" translation which is often free, and always lively. The monk who, in Cassian, "falters" (4.16: *titubaverit)* while singing a psalm, "giggles" in translation. When Bertram translates Cassian's satiric passages the result is breathtakingly vigorous-dynamic equivalence at its finest.

With all the modifications of Cassian's technical vocabulary and descriptions, it is hard to say how authentic the reader's encounter with Cassian will be. Nevertheless, the book accomplishes its purpose quite smartly: to serve solid spiritual nourishment to a specific audience.

Paulist Press has bound Cassian's three series of *Conferences* in a single volume (Ancient Christian Writers no. 57). The translation is annotated by the translator, who has written a general introduction to Cassian and the *Conferences* and provided introductions, textual references, and notes for each preface and conference. The volume contains a glossary and separate indices of scriptural and nonscriptural citations and allusions, of nonscriptural persons, and of place names.

Cassian's long, lively Latin sentences are not easy to translate literally into the sort of English favored today. Boniface Ramsey has done a wonderful job of faithfully rendering Cassian in readable prose which is very much like Cassian's own in style. The care he takes to translate Cassian's technical monastic and ascetic terms consistently and his Scripture quotations exactly is also praiseworthy.

Because charges of semi-Pelagianism have plagued Cassian, it is particularly important that the language of his discussions concerning grace be translated with meticulous accuracy. Here Ramsey's otherwise excellent translation disappoints in three particulars. One or both of two words, *arbitrium* (choice or decision) and *voluntas* (will), occur in nearly every controversial or important grace-related passage (64 occurrences, combined, in *Con{.* 13 alone). Cassian uses the two words differently, according to their literal meanings, but Ramsey renders both "will," except for two instances in 13.18.4. Similarly, Cassian uses *voluntas* in both the singular and the plural (the latter bearing the rather weak sense of "inclinations"), but Ramsey misses the plural in 13.9.5, reading *bonarum voluntatum ... principia* as "the beginnings of a good will."

Lastly, in his commentary, Ramsey correctly highlights a problematic sentence from 13.8.4 which he renders: "When [God] notices good will making an appearance in us, he at once enlightens and encourages it and spurs it on to salvation, giving increase to what he himself planted and saw arise from our own efforts." The translation confuses the issue, however. The original reads: "ei quam *vel* ipse plantavit *vel* nostro conatu viderit emersisse" (to what *either* he himself planted *or* he has seen to have arisen from our effort].

Ramsey's general introduction surveys Cassian's life and then discusses the conferences: their dating, historicity, literary form, structure, contents, and predominant themes. Introductions to individual conferences identify speakers, summarize contents, and, occasionally, offer criticisms. The notes contain much useful information, chief among which are citations of similar themes and images in other ancient works, both pagan and Christian-a helpful resource for scholars. One note, for example, cites ancient efforts to pinpoint the moment angels were created.

Ramsey's commentary is far less successful than his translation. The first difficulty is that he judges the *Conferences* to be historical conversations which Cassian later elaborated and synthesized (though *Conference* 13 makes him question whether absolutely all the conferences are based on real conversations). Ramsey overlooks many indications in the text which show the *Gonferences* to be a literary creation fashioned by Cassian to school Gallic monks systematically in Egyptian wisdom. Thus, at the first fork in the critical road, Ramsey follows the wrong path and consequently misses many of the literary devices which are essential components of Cassian's pedagogy-most notably his extensive use of figures and symbols. The resulting commentary does not do justice to Cassian's depth and nuance.

A second problem is that a faulty understanding of the role Cassian accords discretion guides much of the commentary. Sometimes Ramsey seems to conflate tradition, manifestation of thoughts, submission, and discretion into a single virtue which he calls discretion. Elsewhere, he represents discretion as being practiced through tradition, submission, etc. While presenting these aspects of monastic life as somewhat interrelated, Cassian does distinguish them in their roles and objectives. The most crucial point is that, for Cassian, proper monastic formation humbly received teaches discretion and frees the monk to follow its dictates-eventually in relative independence. Ramsey, however, writes from a conviction that, according to Cassian, a monk never acquires a capacity for independent discernment.

The commentary is written in a conversational style which sometimes becomes discursive. Ramsey reads Cassian as a modern scholar who regards the writings as historically important and interesting, but not "necessarily authoritative. This is manifest in his quick (often negative) judgments of confusing or disturbing teaching, and his concomitant failure to grapple with problematic or elusive texts with a confidence that patient attention will uncover helpful truth or open onto inspiring vistas. Ramsey's stance stands in stark contrast to the posture the text itself strives to cultivate, or even

demands, and, in my judgment, adversely affects his understanding and assessment of Cassian. The opposite view, of course, is that detachment fosters keener insight than commitment. The question of appropriate and fruitful ways for Christian scholars to approach the masterpieces of the Christian tradition divides modern scholarship today. It is of the greatest consequence, for continued access to the wisdom of our past rests upon it proper resolution.

Paulist is to be commended for retaining the numbered subdivisions within chapters and indicating the conference number atop each right-hand page, though the absence of the abba's name is unfortunate. Three aspects of the book's design are annoying: there is no subject index; nothing in the text proper alerts the reader to notes on particular passages; and the bibliographic notes to the introductions are internal and, when lengthy, unduly intrude upon the narrative flow.

Despite the shortcomings, this is a very good book. Ramsey deserves praise for giving us one of our finest monastic writers and spiritual theologians in reliable and readable English.

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