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Grant McColley; H. W. Miller

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SAINT BONAVENTURE, FRANCIS MAYRON, WILLIAM VORILONG, AND THE DOCTRINE OF A PLURALITY OF WORLDS

BY GRANT MCCOLLEY AND H. W. MILLER

IN the *Léonard de Vinci* Pierre Duhem discusses at some length an impressive group of Christian writers of the late mediaeval period who, by rejecting or attacking the physics of Aristotle, and by asserting that God could create more than one world, gradually prepared the way for those who were later to argue that there exists either an infinite world or a plurality or infinity of actual universes.¹ To this important group of precursors should be added three influential writers of the thirteenth, fourteenth, and fifteenth centuries: St Bonaventure, Francis Mayron, and William Vorilong.² Among these theologians and philosophers Saint Bonaventure appears primarily to be interested in the question whether the Creator was antecedently free to choose between a number of equally possible universes, or, to create a plurality composed either of similar or dissimilar hypothetical worlds.³ Francis Mayron seems to be more definitely concerned with a possible plurality of worlds in the cosmological sense, although his statements are too fragmentary and undeveloped to support a positive interpretation. Vorilong apparently has in mind three questions: whether the conception of a quantitative infinite is free from contradiction, whether God could have created one or more better worlds than this, and whether there exists or may exist a plurality or infinity of actual inhabited worlds.⁴

¹ 3 vols (Paris, 1906, 1909, 1913). Among these writers, as cited by Duhem, are William of Ockham, II, 76 ff., Richard of Middleton, II, 413 ff., Walter Burley, II, 414 ff., John of Bassols, II, 416 ff., and Robert Holkot, II, 418 ff. A comprehensive analysis of the influence upon cosmological thought of the principle of plenitude (frequently associated during this period with the goodness or the *potentia infinita* of God) will be found in *The Great Chain of Being: A Study of the History of an Idea*, by Professor Arthur O. Lovejoy (Harvard University Press, 1936), Lecture IV, "The Principle of Plenitude and the New Cosmography." A limited treatment is that of Grant McColley, "The Seventeenth Century Doctrine of a Plurality of Worlds," *Annals of Science*, I, 385-430, sections II and III.

² The famous general of the Franciscan Order, John of Fidenza (died 1274), was canonized St. Bonaventure in 1482. Francis Mayron (died 1327) was an active writer and disputant who introduced the *actus sorbonicus* into the University of Paris. William Vorilong (died 1464) was a celebrated theologian whose commentary on the *Sentences*, the work cited below, was frequently quoted. These three writers normally employ the term *world* in its usual mediaeval cosmological meaning of universe, with *inhabited world* signifying the earth in this universe.

³ The controversy between those who maintained the primacy of the will in God and those who maintained the primacy of the intellect, is discussed by Lovejoy, *op. cit.*, chaps. III and V, *passim*.

⁴ The contemporary of Vorilong, Nicholas of Cusa (*De Docta Ignorantia*, II, xii) is somewhat more positive in his statements regarding the extent and nature of the cosmos, and declares that both God, and the universe of which He is centre and periphery, are infinite. His conception of infinity is of course applied only to the extent of one universe and the number of globes within it, but it emphasizes indirectly the theme of cosmological infinity. Such an infinity, which includes a distinctly possible plurality and perhaps infinity of universes, is sympathetically discussed prior to Vorilong by Crescas in the *Or Adonai*, proposition I, Part II, Speculations Two and Four (*Crescas' Critique of Aristotle*, ed. and tr. by Harry Austryn Wolfson, Cambridge, 1929, pp. 195 ff., 215 ff.).

The utterances of these men illustrate what is conceivably a natural and perhaps inevitable evolution of the proposition, *Could God create more than one world*, to that of, *Could God create more than one world*, and present in epitome a fundamental change which gradually took place during the thirteenth, fourteenth, and fifteenth centuries. In addition, the last writer, William Vorilong, attempts a solution for the problem which belief in more than one inhabited earth brought to orthodox Christian interpretation of the closely related conceptions of the Atonement, the special creation of man, and of original sin.¹

The declaration of St Bonaventure that God could create a plurality of worlds is presented by him as an unquestioned truth, and as such a truth is employed as a premise in solving the proposition: *Utrum Deus potuerit facere mundum antiquiorem*. His inquiry whether God would have made a prior world, distinct in time from this one, leads him to the question whether God would have been able to create a world in a place distinct from that occupied by our world. St Bonaventure then says that it is true and recognized that God is able to create another place and in that place to establish another world, for God, he finds, is able to make a hundred worlds different in location. And thus, he concludes, it is understood with regard to time, so that God is able to create time before this, and in that prior time to make a world.²

The conviction of Francis Mayron that God could make a plurality of worlds is also presented briefly as an undisputed fact. Francis first states that it is the nature of the sun to be in many individual things and that its power would be in vain (*frustra*) if it were not able to be rendered *ad actū*. He then says that, as with the nature of the sun, God would be able to be in many individual worlds. In the second of 'two conclusions of the Christian faith' he declares that God would be able to make another world numerically distinct from this one, because the specific nature of this world is communicable to many individual worlds, for the reason that it may be argued of the principal parts of God as it is argued of the sun.³

The more detailed discussion of Vorilong extends through two distinctions: *An diuina potentia finita qui facit sic aspici at vt ad infinita dirigatur*, and *Utrum dei absoluta potentia mundus potuerit in ordine fieri melior*. In the first distinction the writer reaches the conclusion that God is able to create an infinity of worlds, and in the second asserts that He could create an infinity of worlds better than this one.⁴ His expansion of the idea of a plurality to that of an infin-

¹ According to the limited information of the present writers, Vorilong is the earliest of the Christian theologians yet noted who re-interprets the conventional or Biblical conceptions of the Atonement, original sin, and the special creation of man with the view of harmonizing them with the doctrine of a plurality of inhabited worlds. Others doubtless preceded him.

² *Commentaria in Quatuor Libros Sententiarum*, Lib. I, Dist. XLIV, Art. I, Quaest. IV (*Opera Omnia* . . . Ex Typographia Collegii S. Bonaventurae, 1882) I, 789.

³ *Doctoris illuminati Francisci de Mayronis passus super universalia* . . . , Passus 13 (Bologna, 1479, sig. A 6^v).

⁴ (Colophon) *Viri celeberrimi atque profundissimi magistri Guillermi de vorrilong sacre theologie professoris eximij ordinis fratrum minorum: opus super quattuor libros sententiarum* . . . , Lib. I, Dist. XLIII, XLIV (Venice, 1496, fols 71, col. a, ff.).

ity of worlds is an important departure from the traditional sympathetic discussion of preceding centuries, but it is not Vorilong's most striking variation. This is rather the introduction of the religious conceptions of the Atonement, of original sin, and of the special creation of man upon this earth. As the second paragraph of the following discussion shows, Vorilong attempts to harmonize these conceptions with the doctrine of a plurality of inhabited worlds by ignoring the special creation of man on this earth, and by declaring that men could be created on other earths who did not sin and were untainted by the sin of Adam, with the reservation, however, that Christ could have died in one world for an infinity of worlds:¹

If it be inquired whether a whole world is able to be made more perfect than this universe, I answer that not one world alone, but that infinite worlds, more perfect than this one, lie hid in the mind of God. If Democritus, who posits actual infinite worlds, rightly understood this fact, he would have understood rightly. If it then is asked how the second world cleaves to this one, I answer that it would be possible for the species of this world to be distinguished from that of the other world. If it be further inquired where it could exist, I answer that it would be able to be placed above any part of the heaven, south, or north, east or west. . . .

Now doubt arises. By what means are we able to have knowledge of that world. I answer by angelic revelation or by divine means. If it be inquired whether men exist on that world, and whether they have sinned as Adam sinned, I answer no, for they would not exist in sin and did not spring from Adam. But it is shown that they would exist from the virtue of God, transported into that world, as Enoch and Elias [Helyas] in the earthly paradise. As to the question whether Christ by dying on this earth could redeem the inhabitants of another world, I answer that he is able to do this even if the worlds were infinite, but it would not be fitting for Him to go into another world that he must die again.²

The extent to which Vorilong's discussion implies belief in a physically existent plurality of worlds is difficult to determine. The presence of an infinity of better worlds in the mind of God is expressly declared; and, with their location and nature so interpreted, the infinite universes of Democritus are accepted. However, this declaration is probably no more than a restatement in different terms of the proposition that God could create an infinity of better worlds. Vorilong says further that a second world would have a physical place in the cosmos, and assumes that it, or rather its earth, would have human inhabitants, for whose origin and salvation he carefully provides. Such attention to points fundamental

¹ During the century following Vorilong, Phillip Melancthon and others vehemently attacked the doctrine of a plurality of inhabited worlds for the reason that such a plurality was regarded as incompatible with the Atonement. Melancthon says (*Initia Doctrinae Physicae*, Wittenberg, 1567, ff. 43^v ff.) that there is but one Son of God, our Lord Jesus Christ, who was sent into the world, was dead, and was resurrected. He did not appear in other worlds, nor was He dead and resurrected there. Nor is it to be thought that if there are many worlds, something not to be imagined, that Christ was often dead and resurrected. Nor should it be considered that in any other world, without the sacrifice of the Son of God, men could be brought to eternal life. A less emphatic attack is made several decades later by Lambert Daneau in *Physica Christiana* (Eng. by T. T., *The Wonderfull Workmanship of the World*, London, 1578, fols 25^r ff.). A special study of the apparent conflict between the Incarnation and implications of the doctrine of a plurality of inhabited worlds, which continued into the nineteenth century, is in preparation by Professor Marjorie Nicolson of Smith College.

² *Op. cit.*, Lib. I, D. XLIV (ed. cit., f. 74, col. a).

to mediaeval religious thought indicates a tendency toward belief in an actual plurality of populated worlds. Nor does it seem that he would have re-interpreted widespread and respected conceptions of the Atonement, of original sin, and of the special creation of man on this earth merely to discuss a doctrine which he considered wholly hypothetical.

It appears that Vorilong regarded the existence of more than one world as a definite probability, and was sufficiently impressed by this probability to so re-interpret fundamental Christian beliefs that they were not in conflict with the idea of more than one inhabited globe. His place is apparently that of an important intermediary between the writers of the thirteenth and fourteenth centuries who declared that God could create a plurality of worlds, and those of the sixteenth and later eras who asserted that God had created such a plurality. The final phase of the conception is the most striking and perhaps the most vital, but it is in the last analysis a development from what had gone before, and preceding John Major and Giordano Bruno were such men as Nicolas of Cusa and William Vorilong. The predecessors of these intermediaries were in turn Saint Bonaventure, Francis Mayron, and the many sympathetic philosophers and theologians of the thirteenth and fourteenth centuries discussed by Pierre Duhem. Each of these three precursors of the sixteenth century, St Bonaventure, Francis Mayron, and William Vorilong, should have some place in the history of the development of the mediaeval and renaissance doctrine of a plurality of worlds.

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