

LEIBNIZ'S MISUNDERSTANDING OF NIZOLIUS'  
 NOTION OF 'MULTITUDO'

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The Renaissance humanist Nizolius<sup>1</sup> is a remarkable exception in the history of philosophy, where the notion of class appears to be extremely rare<sup>2</sup>. Nizolius substitutes traditional universals by what he calls *multitudines* and during more than four hundred pages he tries to convince his readers that in the real world there are only individuals and collections of individuals<sup>3</sup>. It is not perhaps clear whether Nizolius' *multitudo* comes closer to *class* or to *heap*<sup>4</sup>. General terms in the plural ("homines") designate, of course, the corresponding *multitudo*; in the singular number they designate *properly* one individual<sup>5</sup>, and *figuratively* the *multitudo* again<sup>6</sup>. We may understand "homo est animal" as having its two terms used in the figurative sense, but then what does the copula "est" mean? Talking in terms of modern logic we could say that the meaning of the copula should be class-inclusion and not class-membership. In fact Nizolius himself frequently stresses that "est" should be substituted by "est in"<sup>7</sup>. Now, it is extremely puzzling that Leibniz seems to have completely missed such a point of Nizolius' theory, because he erroneously thinks that Nizolius' approach leads to such absurdities as {homo}ε{animal}<sup>8</sup> or to such falsities as {homo}={animal}<sup>9</sup>. How or why this could happen, is indeed quite enigmatic<sup>10</sup>. Leibniz's misunderstanding seems to concern not only a detail, but the very basic conception of the book he was editing for the second time, as is suggested by the fact that Leibniz's account of Nizolius' universals begins with a quite misleading formulation<sup>11</sup>. Moreover Leibniz assigns to Nizolius' extensionalist view a "deduced" character<sup>12</sup> which it does not have: familiarity with Nizolius' work shows that the insight into universals as collections was something fundamental, a starting-point from which traditional logic and ontology had to be revised. Again, Leibniz suggests that Nizolius has "forgotten" that there is a *totum distributivum* besides individuals and classes<sup>13</sup>; but Nizolius knows quite well the traditional doctrine *de totis*<sup>14</sup> and although he does not seem to give explicit rules for translating into his language sentences with quantifiers<sup>15</sup> ("omnis", etc.), it is obvious that he preserves the notion of the *totum*

*distributivum* in the nominalist version of a *name* being said of many individuals<sup>16</sup>, while he assigns to it a secondary place with respect to his real concern: the *multitudo*<sup>17</sup>.

Nizolius' pyrrhic fame, due to the fact of his having been edited by Leibniz, should be substituted by a more important one: his book is an excellent introduction - in Ciceronian style - to the problems of the notion of class<sup>18</sup>.

#### NOTES

1. General references for Nizolius are to be found in *Ueberweg, Enciclopedia Filosofica, Enciclopedia Italiana* (Treccani), etc. A general history of philosophy giving a good (for our purposes) presentation of Nizolius is H. Ritter: *Geschichte der Philosophie*, IX, 445-471.

Marius Nizolius was born in Brescello (Italy), 1498, and died in 1576. He was a disciple of Valla, and he taught at the University of Parma. The main event in his public life seems to be a polemic about the classical authors; and among his works we may quote (apart from the book discussed in the present paper) a famous lexicon *Ciceronianum*.

2. The basic hindrance to obtaining a notion of class was the very traditional predication theory, according to which both *Socrates* and *homo* are "inferiors" of *animal*. The name "class" ("classis") does not occur in scholastic logic; it only appears in some humanist authors (for ex. Melanchton, Hospinianus) who want to restore classical Latin (where, incidentally, "classis" had a military sense; cf. *Pauly-Wissowa*). I wish to express my gratitude to Prof. I. M. Bocheński for his helpful comments on this question and the present paper.
3. This is done in a book first published in 1553 (a copy in *Bibl. Nationale*, Paris) and reprinted with introduction and notes by Leibniz (1671, 1674; copies in *Bibl. Nationale*, Paris, and *Stadtbibliothek*, Bern). But there is a recent edition: Mario Nizolio, *De Veris Principiis et Vera Ratione Philosophandi Contra Pseudo-Philosophos Libri IV, a cura di Quirinus Breen. Ediz. naz. dei class. del pensiero italiano*, Roma, Bocca ed., 1956, two volumes, [LXXIV + 216] + [232 + Indice] (the roman numbered pages contain Q. Breen's general introduction to Nizolius, in English). It should be observed that these editions concern also Leibniz, because they include many important Leibnizian remarks arbitrarily excluded from *Gehrhardt* (cf. in particular vol. IV, p. 175 above).
4. The *multitudo* of roses includes not only the "present" but also the "past" and the "future" roses. This is why even in winter there is a *multitudo* of roses. Cf. Leibniz's provocative remark: *Si genus rosarum est multitudo rosarum praeteritarum praesentiarum et futurarum omnium simul sumtarum, nunquam existet; quia nunquam existunt praeterita et futura simul sumta* (In Nizolius, *De Veris Principiis*, ed. Breen, I, p. 130). But Nizolius' *multitudines* might still be heaps in the sense of Quine and Goodman (I owe this remark to G. Küng, who has also kindly read my manuscript).
5. I understand that, for example, "animal" equivocally names each individual of the class of animals (*De Veris Principiis, Liber I, cap. 6*; ed. Breen I, p. 62-63).
6. For instance, *De Veris Principiis Liber I, cap. IV*. Cf. for the distinction in general Breen's introduction p. LIII.

7. *De Veris Principiis*, ed. Breen, I, pp. 48, 72, 79, 84, 99, 105. Nizolius is perfectly clear on this point:

Praeter ea dico, has voces animalis, et hominis, et alias similes, ut significant et usurpantur figurate pro genere animalis, pro specie hominis, et caetera vere quidem dici et praedicari de rebus, quae sunt vera animalia et veri homines, sed non in rectu casu, vero in obliquo tantum, ut ita dicendo: homo est in genere animalium, non homo est genus animalium, vel homo est animal, quia falsum est hominem esse animal, intelligendo animal figurate pro toto genere animalium. Item dicendo Socrates est in specie hominum, non Socrates est species hominum, vel Socrates est homo, accipiendo hominem pro tota specie hominum, quia falsum esset (*De Veris Principiis*, Leibniz-edition 1674, p. 79).

In the XIIIth century the author of the theory of *collectiones* had to introduce the same device:

Itaque cum dicitur: Socrates est homo, hic est sensus: Socrates est unus de materialiter constitutis ab homine, vel, ut ita dicam, Socrates est unus de humanis (V. Cousin: *Ouvrages inédits d'Abélard*, p. 528; cf. also p. 548).

Ritter, who explains Nizolius' rule concerning the new meaning of "est" (or rather its transformation into "est in", *Gesch. d. Philos.* IX, 460-1), also gives an intelligent exposition of the same rule in the earlier theory of *collectiones* as well as of this theory in general (*Gesch. d. Philos.* VII, 362-382).

The XIIIth century author and Nizolius are adopting the same linguistic care, whose lack Frege denounces in Schroeder (*Kritische Beleuchtung einiger Punkte in Schroeders Vorlesungen über die Algebra der Logik, Archiv f. system. Philos.* I (1895), 433-456; cf. p. 438).

Abelard rejects the theory of *collectiones* but he does not seem to consider the fact that the new theory involved also a modification of the copula "est" (cf. *Logica Ingredientibus*, in: *Beiträge z. Gesch. d. Philos. d. Mittelalters*, XXI, p. 14-15).

8. Et si Nizoliano more omnis homo, seu omnes homines sunt totum collectivum, et idem quod totum genus humanum, sequetur absurda locutio. Nam si eadem sunt, age in propositione ista: omnis homo est animal, vel omnes homines sunt animalia, substituamus totum genus humanum, orietur haec propositio plus quam inepta: totum genus humanum est animal; similiter de grege res est, nam si universale ab omnibus pecudibus, quae hic pascuntur, abstractum, idem est cum toto ex iis collecto, grege, ut vult Nizolius, vera erit haec propositio: totus grex est ovis (Gehrhardt: *Die Philosophischen Schriften von G. W. Leibniz*, vol. IV p. 160).
9. Addamus hoc quoque: cum dico omnis homo est animal, si genus de specie dicitur, et genus est universale, universale totum genus ex singularibus collectum, substituamus voci animalis omnia animalia simul sumta, orietur haec propositio: Homo est omnia animalia simul sumta. Cum sufficiat homini esse quoddam animal, seu aliquod ex universo animalium genere (*ibid.*).
10. Prof. A. Robinet (Paris) has kindly suggested to me the main lines of research in order to solve this enigma. I have not consulted Leibniz's unedited epistolary in Hannover or Leibniz's *Handexemplar* of Nizolius' book (also in Hannover), but an examination of the many occurrences of the name "Nizolius" in the already published volumes of the *Akademie-Ausgabe* is rather discouraging. On the other hand, Leibniz's misinterpretation seems not to have been considered by the several authors who have dealt with Leibniz-Nizolius, for instance: B. Tillmann, *Leibniz' Verhältnis zur Renaissance im allgemeinen und zu Nizolius im besonderen*, Bonn, 1912, 93 p.; A. Corsano, *G. W. Leibniz*, Napoli 1952, p. 37-45. For this and other valuable information on Leibniz-Nizolius I am grateful to E. de Olaso (Consejo Nacional de Invest. Cientificas y Técnicas, Buenos Aires.)

## 11. Leibniz says:

Ultimo loco gravis aliquis error Nizolii circa universalium natura dissimulari non debet; potest enim lectorem non satis cautum a vero philosophandi tramite penitus abducere. Persuadere conatur nobis, universale nihil aliud esse quam omnia singularia collective simul sumta, et cum dico: omnis homo est animal sensum esse: omnes homines sunt animalia (*ibid.* as in note 9).

But this says *nothing*, or, if anything at all, *not* what Nizolius means, namely that the class of men is included in the class of animals.

12. Leibniz says “. . . at probat Nizolius . . .” (*ibid.*).13. At erras Nizoli; datur enim aliud totius discreti genus praeter collectivum, nimirum: distributivum (*ibid.*).14. *De Veris Principiis, Liber I, cap. X*: “de totis et eorum divisionibus . . .”.15. A further point to be analysed would be Leibniz’s use or abuse of “omnis” in his criticism of Nizolius (cf. for instance Leibniz’s note 15 - in Breen’s edition - to *Liber I, cap 4* of *De Veris Principiis*). This is not quite clear to me, but in any case it does not concern the result of the present paper, namely Leibniz’s mistake.16. Et hoc modo, intelligendo hominem pro voce hominis, concedo hominem esse universalem, ac dici et praedicari de omnibus suis inferioribus, quae sunt res singulares (*De Veris Principiis, Liber I, cap. 7*; in Breen’s edition vol. I, p. 82).17. Non enim homo, exempli gratia, necessario est animal, quia animal sive vox animalis dicatur de omni homine, sed contra potius animal sive vox animalis dicitur de omni homine, quia unus homo vere est unum animal, vel genus hominis vere est animalia sive continetur in genere animalium, hoc est, multitudo minor in multitudine majore; vel opposito modo, quia animal sive genus animalium continet hominem sive genus hominum, hoc est, multitudo major multitudinem minorem (*De Veris Principiis, ed. Breen, I, p. 79*).18. For a recent presentation of the notion of class, cf. W. O. Quine, *Set Theory and its Logic*, 1963, p. 1.

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