

Some Notes on Whether Logic is a Speculative or Practical Science

by Richard J. Connell

A LITTLE RESEARCH will show that some modern authors consider logic to be a practical science. Together with their followers these people constitute a group which is by no means a negligible number; their opinion is common enough to warrant attention. However, within the group there is to be found some variety in the reasons which are offered in support of the contention that logic is a practical science. Some writers hold that logic is practical because it is useful (obviously presupposing that every useful science is practical), while others argue that logic is practical because it "makes" or "does" something; or in other words, it is practical because it is ordered to a work. These two notions seem to predominate.¹

We purpose in this brief essay to argue the case for the opposing view, namely, that logic is a speculative science; but in order to carry out our purpose we do not deem it necessary to enter into a comprehensive consideration of the distinction between speculative and practical knowledge.² We propose to

¹ The question of whether logic is speculative or practical is not one which has been treated at great length by the writers to whom we refer. However, some of those who have spoken briefly but explicitly on the subject are the following: P. Coffey, *The Science of Logic* (New York, 1938), I, pp. 14-16; Henri Renard, *The Philosophy of Being* (Milwaukee, 1943), p. 7; Gerard Smith, *Natural Theology* (New York, 1951), pp. 2-3.

² It seems advisable at this point to indicate where the reader who is so inclined can find a more complete consideration of speculative and practical knowledge. However, instead of listing the sources ourselves we would like to economize by referring the reader to *Connaissance spéculative et pratique*, by Jean Pétrin (Ottawa, 1948). We are only superficially acquainted with the *corpus* of this work, but the book does contain an appendix of the fundamental texts of St. Thomas, and a good bibliography of contemporary writings on the problem.

limit our discussion to the questions 1) whether every useful science is practical; 2) whether every science that is ordered to a work is practical.

Apropos of the first question we should note that, considered under the formality of good, human disciplines are subject to a twofold distinction: 1) those which are *useful*, and are sought in view of something other as an end; 2) those which are *good in themselves*, and which are pursued for their own sake. Now few will deny that the disciplines which are sought *propter se* are those which we call speculative; and since it is ordinarily practical knowledge that is opposed to the speculative, it would seem that these two divisions of knowledge coincide. On the surface it appears to be true that every useful discipline is practical.

In the beginning of his *Metaphysics*,³ Aristotle remarks about wisdom that "we pursue this [wisdom] as the only free science, for it alone exists for its own sake." St. Thomas, in his commentary on this passage,⁴ observes that the proposition "this is the only free science" can be interpreted in two ways: first, as referring to the *genus* of speculative science; and as thus understood it is true that only the speculative disciplines are pursued for their own sake; or secondly, it can be taken to refer to the science of metaphysics; and interpreted in this manner, too, the proposition is true. For, as St. Thomas remarks, all the other sciences are ordered to wisdom as their end; metaphysics alone is "maxime propter se." The other natural disciplines, although some have a certain goodness in themselves, are ordered to metaphysics: either with respect to the *esse* or the *bene esse* of the latter.⁵ Even mathematics and the philosophy of nature are not pure ends, for to the extent that these sciences are for the sake of metaphysics they are *ad finem*—they are

³ *Met.*, A, 2, 982b 27-28 (Oxford edit.).

⁴ *In I Met.*, 3, ed. Cathala, nn. 58-59.

⁵ St. Thomas, *In Boeth. de Trin.*, V, 1, ad 9 (ed. P. Wyser [Fribourg, 1948]).

means to an end. Metaphysics alone among the natural disciplines is in no way ordered to another as its end. Wisdom is, therefore, "maxime propter se."

Now if speculative science is characterized by the truth which is sought for itself, and if the truth of every discipline other than metaphysics is to some extent on account of the latter, it would appear that no science but metaphysics is perfectly speculative. And if "practical" is equivalent to "useful" it seems that even mathematics and the science of nature can be called practical insofar as each is a *bonum utile* in the acquisition of metaphysics. But although the *ratio* of speculative science is not perfectly realized in mathematics and the philosophy of nature, nevertheless, the latter sciences belong to the genus of speculative knowledge. Even though they are not "maxime propter se" they are, nonetheless, good in themselves; they can be pursued as ends.

At this point we should note that those who hold logic to be practical are as one in admitting the speculative nature of mathematics and the philosophy of nature. But this leads to a rather obvious difficulty. It is inconsistent to assign *utility* as the *ratio* of practical knowledge and at the same time to deny that, insofar as they are useful for learning metaphysics, the philosophy of nature and mathematics are practical. On the other hand, if it is conceded that the lesser speculative sciences *are* practical to the extent that they are means to the acquisition of metaphysics, then cognizance should be taken of the fact that the term "practical" has a new imposition, an imposition that is not employed by St. Thomas when he distinguishes the two orders of knowledge. And if St. Thomas is to serve as a teacher it is necessary to know with precision how he employs his terms and the foundations for the distinctions he makes. But the burden of proof is upon us; we must make good our assertion that St. Thomas does *not* equate "practical" with "useful."

In the *Questions Disputatae de Veritate*, question 3, article 3.

St. Thomas makes a distinction familiar to all. He remarks that "the practical intellect differs from the speculative intellect by its end; for the end of the speculative intellect is truth absolutely, whereas the end of the practical intellect is operation. . . ." ⁶ And on the occasion of another question, he adds something which is pertinent to the proper understanding of the above doctrine:

. . . a habit of the speculative intellect is ordered to its proper act, which it perfects, and which is the consideration of the true; for it is not ordered to some exterior act as its end, but has its end in its proper act.

However, the practical intellect is ordered to an exterior act as its end: for the consideration of doing and making does not pertain to the practical intellect except on account of the doing and the making. . . .⁷

The speculative intellect and its habits are ordered to intellectual operation as their end. They seek truth for its own sake. But the practical intellect is ordered to an operation exterior to itself as its end. This latter power considers what is to be done and what is to be made for the sake of the doing and the making, both of which are operations exterior to the intellect. The *verum absolute* is the object of the speculative intellect; it is also the *end* of this power. The object of the practical intellect, however, is the *verum relatum ad opus*,⁸ which is not an end but a principle. The object of the practical intellect is *ad finem*, and the *end* to which it is related is an operation

⁶ ". . . intellectus practicus differt a speculativo fine; finis enim speculativi est veritas absolute, sed practici est operatio. . . ."

⁷ *De Virt. in Comm.*, 7, ad 1. ". . . habitus intellectus speculativi ordinatur ad actum proprium, quem perfectum reddit, qui est veri consideratio; non autem ordinatur sicut in finem in aliquem exteriorem actum, sed finem habet in suo actu proprio.

"Intellectus autem practicus ordinatur sicut in finem in alium exteriorem actum: non enim consideratio de agendis vel faciendis pertinet ad intellectum practicum nisi propter agere vel facere."

⁸ St. Thomas, *De ver.*, XXII, 10, ad 4.

exterior to reason. The object and end of the practical intellect are distinct.

But it might seem that our interpretation of "exterior act" is erroneous, for an act of one science can be called exterior in relation to the act of another science even when both of these operations belong to the same power. Hence, it might appear that what distinguishes speculative habits from those which are practical is the lack of ordination to *any* further act, either interior or exterior to the reason. However, following St. Thomas we can point out that ". . . *the speculative intellect*"⁹ is not ordered to something outside itself; for it is ordered to its proper act as its end."¹⁰ The speculative *intellect* as such is not ordered to something extrinsic to itself, and "exterior" must be understood as exterior to the *power*. Hence, the speculative habits are characterized by their lack of ordination to an operation exterior to the speculative *intellect*. The latter remains within itself, whereas the practical intellect, because it is ordered to another faculty, in a certain manner (insofar as it has an effect *extra se*) passes into the other power which is its end. Consequently, when the speculative and practical intellects are opposed by virtue of the latter's ordination to an operation, the operation in question is one which proceeds from a faculty exterior to the reason.

The same distinction can be made in regard to the *opus* of practical knowledge, which concerns the second question we promised to discuss. When St. Thomas says that practical knowledge is ordered to a work, the work of which he speaks is exterior to the intellect:

. . . there is a twofold work: namely, exterior and interior. The practical or operative, which is divided against the speculative, is taken from the exterior work, to which the speculative habit is not ordered.

⁹ Italics are mine.

¹⁰ *De Virt. in Comm.*, 7, ad 4. ". . . intellectus speculativus non ordinatur ad aliquid extra se; ordinatur autem ad proprium actum sicut ad finem."

But nevertheless it has an order to the interior work of the intellect, which is to know the true.¹¹

In the mind of St. Thomas both an operation and a work are denominated practical by reason of their ordination to something extrinsic to the intellect. It is not sufficient that they be useful, for utility extends beyond the practical into the speculative order. It is true to say that every practical science is useful, but it cannot be held that every useful science is practical. Thus, no science whose proximate end is an operation of the intellect, or whose work is within the intelligence can properly be called practical.¹² And because logic is a science which is ordered to the operation of the intellect, even though it is useful it is not practical. Logic must, therefore, be classed among the speculative disciplines.

But although rational science cannot be called practical, neither is it perfectly speculative; it belongs only reductively to the genus. For as St. Thomas notes, logic bears on things of which "knowledge is sought not for their own sake, but as a certain aid for the other sciences."¹³ Rational science differs from the other speculative disciplines inasmuch as it is a pure

¹¹ *Summa Theol.*, I-II, 57, 1, ad 1, (ed. Leonine). ". . . duplex est opus: scilicet exterius, et interius. Practicum ergo, vel operativum, quod dividitur contra speculativum, sumitur ab opere exteriori, ad quod non habet ordinem habitus speculativus. Sed tamen habet ordinem ad interius opus intellectus, quod est speculari verum."

¹² It is, of course, that to which a science is *immediately* ordered which specifies it. Painting is not speculative because the work which it produces is ordered to the intellect. Similarly, apart from any consideration of the mode proper to practical knowledge, logic could not be called practical simply because in some way it might be employed in considerations belonging to practical science.

¹³ *In Boeth. de Trin.*, V, 1, ad 2. ". . . Res autem de quibus est logica, non quaeruntur ad cognoscendum propter seipsas, sed ut adminiculum quoddam ad alias scientias. Et ideo logica non continetur sub speculativa philosophia quasi principalis pars, sed sicut quoddam reductum ad philosophiam speculativam, prout ministrat speculationi sua instrumenta, scilicet syllogismos et definitiones et alia huiusmodi, quibus in scientiis speculativis indigemus."

bonum utile. Unlike metaphysics, mathematics and the philosophy of nature, logic is not to any extent good in itself. Whatever goodness this discipline has comes from its end. The very object of logic, beings of the reason, precludes its being anything but a pure means to an end. Hence, logic is only reductively speculative, and it may not be considered a principal part of the genus.

However, to maintain that rational science belongs reductively to the genus is not equivalent to saying that it is *simpliciter* practical, anymore than to classify matter and form as reductively in the genus of substance is to say that the latter are *simpliciter* accidents. Two things belong to the *ratio* of substance: *per se* existence and completeness of species. Neither of these is realized in substantial form or prime matter (except for the human soul, of course, which exists *per se*), but because both of them are principles of substance they are placed in that same genus; they belong to the category by reason of another, the substance which they constitute. Similarly, the *ratio* of speculative science is not realized in logic, considered in itself. Logic belongs among the speculative sciences because it is an instrument of intellectual operation; and "every instrument," says St. Thomas, "must be defined from its end, which is the use of the instrument. . . ." ¹⁴ Furthermore, logic is the instrument of a *speculative* intellectual operation (i. e. it is not an instrument of practical knowledge insofar as the latter proceeds compositively), for its purpose is to teach the rules of definition and demonstration. But to proceed by definition and demonstration is to proceed in a resolute mode, the mode proper to speculative science. ¹⁵ Thus, not only is logic an instrument of the intellect, it is more particularly an instrument of speculation, and for that reason is itself a speculative science.

¹⁴ *In I Periherm.*, 7, n. 2, (ed. Leonine). "Omne autem instrumentum oportet definiri ex suo fine, qui est usus instrumenti. . . ."

¹⁵ St. Thomas, *Summa Theol.*, I, 14, 16, c.

In closing, we can observe that for St. Thomas “useful” and “practical” are not equivalent in meaning. “Practical” denominates a discipline whose end is extrinsic to the reason, whereas “useful” implies no such limitation. And if modern usage equates the two words, it should be noted that in so doing modern usage departs from the traditional philosophical signification of the terms.

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