

## «OBJECTIVE KNOWLEDGE»: THE DISAPPEARANCE AND REVALUATION OF «KNOWLEDGES» FROM JOHN SERGEANT TO KARL POPPER

### *Some Linguistic Preliminaries*

In the western philosophical tradition, epistemological doctrines have come to be formulated mainly through the epistemic lexicons of seven natural languages: Arabic, English, French, German, Greek, Italian, and Latin. Each of these epistemic lexicons consists of a class of families of eminently epistemic terms («eminently» because I would also include in this class doxastic and alethic terms such as «to believe» «doubt» or «true», which can acquire an epistemic value).

Two characteristic features of the English epistemic lexicon are that:

i) as far as epistemic verbs are concerned, English lacks lexical distinctions similar to those between «scire» «sapere» and «cognoscere» in Latin, between «gignoskein», «eidenai», and «epistasthai» in Ancient Greek<sup>1</sup>, between «ilm» and «màrifah» in Arabic<sup>2</sup>, between «connaitre» and «savoir» in French, between «kennen» and «wissen» in German, or between «conoscere» and «sapere» in Italian. Indeed, the only other Indo-European language that seems to have a similar lexical restriction is Russian, whose lexicon includes only the verb «znat» for «to know»<sup>3</sup>. In so far as the occurrence of epistemic adjectives depends on the presence of epistemic verbs, the shortage of the latter may also influence the family of epistemic adjectives available in

<sup>1</sup> For an analysis of the Greek epistemic lexicon see M. F. BURNYEAT, *Aristotle on Understanding Knowledge*, in *Aristotle on Science, The «Posterior Analytics»*, «Proceedings of the Eighth Symposium Aristotelicum», ed. by E. BERTI, Padova, Editrice Antenore, 1978. For Plato, cf. J. LYONS, *Structural Semantics: An Analysis of Part of the Vocabulary of Plato*, Oxford, Clarendon Press, 1963).

<sup>2</sup> On the Arabic epistemic lexicon see F. ROSENTHAL, *Knowledge Triumphant*, Leiden, Brill, 1970: especially ch. 3, «The Plural of Knowledge».

<sup>3</sup> Cf. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*, ed. Carl Darling Buck, Chicago & London, The University of Chicago Press, 1949, pp. 1208-10.

English. An example is provided by the distinction between «cognoscitivus» and «cognitivus» in Latin, or that between «conoscitivo» and «cognitivo» in Italian;

ii) as far as the most important of the epistemic nouns is concerned, English *ordinarily* lacks the lexical form «knowledges». A countable use of the noun such as in «a knowledge», although correct, is also not very usual. Unlike other countable (count), class or sortal, epistemic nouns like «belief», «perception» or «proposition», used as a mass or non-sortal noun «knowledge» syntactically does not have a singular and a plural form, does not take numerals as prefixes and it is not specifiable by means of determiners such as «each», «every», «many», «few» or «some» (stressed), but only by determiners such as «much», «an amount», «little» or «some» unstressed<sup>4</sup>. In spite of all this, according to Sir William Hamilton there was a time when «knowledges» was considered a grammatically well formed noun. In order to explain when and in what sense «knowledge» was technically used as a count noun I shall focus only on the analysis of the plural of «knowledge», examining what Hamilton has to say on the issue. The countable use of syntactically complex constructions of the singular such as «a knowledge» will be disregarded for reasons that will be made explicit in due course.

### «Knowledges» and Modern Philosophy

In different ways, Hamilton provides evidence for three meanings of «knowledges»: *res cognitae*, *cognitiones* and *scientiae*. Things known, independently of the fact whether they are known by a single human knowing subject or not, e.g. that water is H<sub>2</sub>O, or that if you want to call from a public telephone in the U.K., you need either some coin or a telephone card are «knowledges» as *res cognitae*; (dispositional) doxastic states, like my knowing that there is a glass on the table, that such a glass is full of water, that water is a drinkable liquid and that water is H<sub>2</sub>O, are four examples of «knowledges» as *cognitiones*; physics, chemistry and, in more optimistic times, philosophy itself count as three «knowledges» in terms of sciences.

<sup>4</sup> For the distinction between the two phonetically different uses of the graphically same quantifiers «some» – like in «some of you have done a good job» and like in «some furniture should be removed from the office» – see H. CARTWRIGHT, *Heraclitus and the Bath Water*, «Philosophical Review», 74 (1965), pp. 466-485.

The first two meanings appear in Hamilton's edition of *The Works of Thomas Reid*<sup>5</sup>: «[...] the principles of our knowledge must be themselves *Knowledges* [here Hamilton adds a footnote, see below. If viewed as cognitions, in general, they have been called 1.a *Cognitions or Knowledges* (*gnoseis, cognitiones, notitiae, informationes* &c.) with the discriminative attributes *first, primary, ultimate, original, fundamental, elemental, natural, common, pure, trascendental, a priori, native, innate, connate, implanted* &c.» [here and below underlining is in the text, my italics]. Note that by characterizing cognitions, knowledges, *cognitiones, notitiae, informationes* as synonymous, Hamilton mentions but does not distinguish between *res cognitae* and *cognitiones*, that is, in the text, between *notitiae/informationes* and *cognitiones*. This is also testified some years later by a similar use of «knowledges», made by Hamilton in his *Lectures on Metaphysics and Logic*<sup>6</sup>: «Now this knowledge of the cause of a phenomenon is different from, and something more than, the knowledge of that phenomenon simply as a fact; and these two *cognitions or knowledges* have, accordingly, received different names. The latter, we have seen, is called *historical, or empirical* knowledge; the former is called philosophical, or scientific, or rational knowledge. Historical, is the knowledge that a thing is – philosophical, is the knowledge why or how it is». And again, a few lines after: «To recapitulate what has now been stated: – There are *two kinds or degrees of knowledge*. The first is the knowledge that a thing is [...] and it is called the knowledge of the fact historical or empirical knowledge. The second is the knowledge why or how a thing is [...] and it is termed the knowledge of the causes, philosophical, scientific, rational knowledge»<sup>7</sup>.

According to these passages, «knowledges» can stand not only for two or more *res cognitae*, but also, or better above all, for two or more kinds or degrees of mental apprehensions or cognitions of knowables (*cognoscibilia*)<sup>8</sup>. The distinction between *res cognitae* and *cognitiones* is important and is worth maintaining. If two instances of knowledge can be called two «knowledges», then it is desirable to be able to distinguish whether we are talking about them in so far as they

<sup>5</sup> SIR WILLIAM HAMILTON (ed.), *The Works of Thomas Reid*, Edinburgh, Maclachlan, 1846, pp. 763-4.

<sup>6</sup> Cf. SIR WILLIAM HAMILTON, *Lectures on Metaphysics and Logic*, eds. H.L. MANSEL and J. VEITCH, 4 vols., Edinburgh, Blackood & Sons, 1859, vol. I, pp. 57-8.

<sup>7</sup> HAMILTON, *Lectures on Metaphysics and Logic*, cit., pp. 57-8.

<sup>8</sup> Cf. I. WATTS, *Logic or the Right Use of Reason in the Inquiry after Truth*, London, 1792, p. 75: «It is therefore of great service to the true improvement of the mind to distinguish well between knowables and unknowables».

involve a knower, or in so far as e.g. they are stored in the memory of a computer. If we do not draw any distinction between *res cognitae* and *cognitiones*, as Hamilton seems not to do, the disappearance of all human beings, for example, would force us to speak of the disappearance of any formulated knowledge, which is somewhat counter-intuitive. Or, to put it in a slightly different way, we would never be able to explain how it is possible for «knowledges» to be manipulated by someone without this someone also understanding what he or she is manipulating. The Latin terminology can be of some help in maintaining such a distinction: «cognitio» refers to the act or the capacity of getting to know something or someone, to the act of acquiring knowledge, to the possession of knowledge, and then to «comprehension», «notion» or «idea» as the results of such activities or processes; whereas *res cognitae* are subjectless «knowledges», «cognitus» being a participle that qualifies whatever is known from experience or proved, ascertained, acknowledged or recognized as known. Unlike «knowledges» as *cognitiones*, «knowledges» as *res cognitae* can be introduced by the impersonal clause «it is known that ...», but more on such a distinction in a moment.

The third use of «knowledges» as synonymous of «sciences» does not occur explicitly in Hamilton's work, but it is referred to in a footnote to the previous passage, where Hamilton says: «Knowledges, in common use with Bacon and our English philosophers [...] ought not to be discarded. It is however unnoticed by any English Lexicographer». In this reference to Bacon, Hamilton must have had in mind *The Two Bookes of Francis Bacon of the Proficiency and Advancement of Learning, divine and humane*, published in London by Henrie Tomes in 1606<sup>9</sup>. In this English work, Bacon uses «knowledge» as a count noun<sup>10</sup> and as a synonymous to «scientiae», either in a strong sense of systematic and consistent bodies of knowledges, or in the weaker sense of a collection of items of knowledge<sup>11</sup>. Note that the meaning of *scientiae* is more strictly connected to that of «knowledges» as *res cognitae* than to that of «knowledges» as *cognitiones*: as individuals we are well acquaintend with the fact that our personal cog-

<sup>9</sup> The work has been reproduced in facsimile (Amsterdam - New York, Da Capo press, 1970) and constitutes part of the third volume of the classic edition of *The Works of Francis Bacon*, by J. SPEDDING, R. LESLIE ELLIS and D. D. HEATH, London, Longman, first edited in 1857-74.

<sup>10</sup> Cf. *The Works of Francis Bacon*, vol. III, occurrences of «knowledges» can be found e.g. on p. 324, 330, 346, 350, 351, 366, 367, 380, 381, 383, 403, 404, 405, 408, 415, 417, 444 and of «a knowledge» e.g. on p. 405, 408 and 484.

<sup>11</sup> Cf. for example *The Works of Francis Bacon*, vol. III, p. 406: «The mathematics, which are the most abstracted of knowledges», or p. 356, when he speaks of the organization of various knowledge. The countable use of «knowledge» seems so common that the editors of *The Works* often translate «scientiae» by means of «knowledges».

*nitiones* cover only a limited area of the enormous field of *scientiae*, which can be seen as organized bodies of *res cognitae*, the field of the latter being in turn much less extended than the field of the *cognoscibilia*. When we say that «knowledges» can be investigated independently of a knower, we may be referring either to things known or to sciences.

Let me conclude this series of remarks on the meaning of «knowledge» as a class noun by focussing on the expression «a knowledge». It is widely believed<sup>12</sup> that one criterion to classify a noun as class or mass is by checking whether the noun in question can be preceded by the indefinite article «a(n)» or similar «counting» specifiers, like «several», or «few»: it seems that if it can, it is a class noun, if it cannot, it is a mass noun. Apparently, the adoption of this syntactical criterion would reinforce Hamilton's remark about the presence of a countable use of «knowledge» owing to the common use of «knowledges»: in fact the occurrence of «a knowledge» is largely attested in philosophical works already during the seventeenth and eighteenth century. Isaacs Watts, for example, uses it quite commonly in his *Logical*, and we find it adopted by Oliver Goldsmith in his *A Survey of Experimental Philosophy* in order to translate the French «connaissance»<sup>13</sup>. However, it has been convincingly argued that every noun which would normally be considered a mass noun could be given a perfectly clear count sense provided we add some previous specification<sup>14</sup>. For example, it is grammatically correct to say «mineral water is *a kind of water* which I do not like to drink». Such possibility is generally interpreted as showing the necessity to distinguish between two views: on that considers *nouns themselves* as intrinsically un/countable and another that considers their *uses* as un/countable. In this context, such a linguistic phenomenon can be interpreted as showing that expressions like «a kind of water» or «a type of knowledge» do not necessarily imply that «water» or «knowledge» suddenly become count nouns, or usable as if they were count, but rather that we are facing a countable use of the specifier, e.g. «kind of»<sup>15</sup>. As a consequence,

<sup>12</sup> Cf. H. C. BUNT, *Mass Terms and Model-theoretic Semantics*, Cambridge, Cambridge U.P., 1985, p. 14, where Bunt presents such possibility (of being preceded by «a(n)») as being thought to be *typical* of count nouns for example by W.V.O. QUINE in *World and Object*, Cambridge Mass., M.I.T. Press, 1960.

<sup>13</sup> O. GOLDSMITH, *A Survey of Experimental Philosophy considered in its present State of Improvement* (London, 1776), 2 vols.. The passage occurs in the Introduction, reprinted in *Collected Works*, ed. A. FRIEDMAN, Oxford, Clarendon, 1966, vol. V, pp. 341-8.

<sup>14</sup> Cf. F.J. PELLETIER, *Non-singular Reference* in F. J. PELLETIER, *Mass Terms: Some Philosophical Problems*, Dordrecht, Reidel, 1979, pp. 1-14, esp. 5.

<sup>15</sup> Cf. BUNT, *Mass Term and Model-theoretic Semantics*, p. 10: «[i]n fact, almost any 'mass noun' can be used as a count noun with the reading 'kind of...'», from which Prof. Bunt concludes that: «nouns *per se* cannot be classified as count or mass».

Watts' expressions like «you will be more easily led into a distinct knowledge of things»<sup>16</sup> or «[i]n order therefore to a clear and distinct knowledge of things»<sup>17</sup> may still not count as examples of uses of «knowledge» as a count noun<sup>18</sup>. Moreover, even occurrences of «a knowledge» can no longer amount to conclusive evidence for a countable use of the noun, since they can always be reinterpreted as elliptical expression standing for longer ones containing a specifier. Another example may be useful. In Goldsmith's translation of *A Concise History of Philosophy and Philosophers*, written by M. Formey (London, 1766), we find the following expression: «A knowledge of nature was equally hidden from them [the fathers of Church] [...]» (p. 172). Now such a countable use of «knowledge» can be interpreted as elliptical for «a + [specifier] + knowledge», as this is implicit in another passage where Goldsmith translates «he [Barbarus] united a skill in mathematics with a profound knowledge of Peripatetic Philosophy» (p. 199). The fact that I have found no occurrences of «knowledges» in the text and in all his *Collected Works* supports the hypothesis that Goldsmith was not using «knowledge» as a count noun, but as a noun whose implicit specifiers are countable. It is possible to conclude that syntactical considerations are not sufficient to settle the issue: occurrence of the expression «a knowledge» without a specifier can always be reinterpreted by appealing to the distinction between superficial structure, that would seem to present a countable use of «knowledge», and a deep structure, that would make explicit the elliptical form of the expression by adding a specifier like «kind of ...» and make the latter bear the countable value of the expression.

Things are otherwise when we assume the occurrence of the plural of the noun as a criterion to decide whether or not we are facing a countable use of it. In the case of «knowledges» there are no good reasons to deny that e.g. Hamilton is adopting a countable use of «knowledge» and consequently employing the noun as a class noun. The use of the numeral «two» in the second passage from the *Lectures on Metaphysics and Logic* quoted above could not be more indicative. Only in one case may Hamilton's use of «knowledges» raise doubts similar to those concerning the elliptical use of «a knowledge»: when he speaks of the distinction between «two kinds or degrees of knowledge» (cf. 6). However, in this case too it is easy to recognize that

<sup>16</sup> WATTS, *Logic*, cit., p. 66.

<sup>17</sup> WATTS, cit., p. 75.

<sup>18</sup> Cf. also O. GOLDSMITH, *Nor were the ancients without a great knowledge in this art*, *A Survey of Experimental Philosophy*, vol. I, p. 210.

there is no deeper structure which could be hypothesized so that it would make the countable use of «knowledges» disappear without radically changing the meaning of the expression. Likewise, when Edmund Bolton speaks of «ingenuous knowledges» or of «heroike knowledges»<sup>19</sup>, what is *primarily* ingenuous or heroic is not a type of knowledge but items of knowledge, which therefore belong to a certain kind of knowledge, where «knowledge» is used as a class noun. We do not select a special type of knowledge and then declare that such knowledge is ingenuous, but we see knowledge as articulated into cases of knowledge, and we declare that some of them, i.e. some knowledges, are ingenuous.

Hamilton's fears about the disappearance of «knowledges» turned out to be justified. Although the lexicographers of the Oxford English Dictionary have come to take into account the plural of knowledge<sup>20</sup>, the tendency of discarding «knowledges» from English has overwhelmed the utility of the term. The O.E.D. reports some cases of usage of «knowledges», but only to class them as obsolete<sup>21</sup>. At a first sight such development of English may seem to be puzzling: «knowledges» was lost despite its apparent usefulness. Why did English not maintain the lexical distinction between the singular and the plural when the other principal lexicons through which epistemological issues have come to be formulated still possess it? While «knowledges» was finally disappearing from the ordinary English lexicon – between the end of the seventeenth century and the beginning of the eighteenth century – intellectuals in Great Britain were commonly in contact with their continental colleagues and their languages. Locke himself, for example – who, as we shall see, may be identified as the person principally responsible on the philosophical side for the disappearance of «knowledges» – spent several years abroad. Moreover, nowadays the epistemic lexicon of English is still sometimes forced to take into account the foreign lexical distinction

<sup>19</sup> T.H. BLACKBURN, *Edmund Bolton's The Cabanet Royal: A Belated Reply to Sidney's Apology for Poetry*, «Studies in the Renaissance», 14 (1976), pp. 159-171, the two plurals occur respectively on p. 168 and p. 170.

<sup>20</sup> Hamilton's remarkable passage from *The Works of Thomas Reid* is not quoted by the *Oxford English Dictionary* which, on the other hand, reports the passage from Hamilton's *Metaphysics*. It is worth noticing that neither the *Scottish National Dictionary* – ed. W. Grant (Edinburgh, Scottish National Dictionary Association, 1960) – nor the *Dictionary of the Older Scottish Tongue* – eds. W. A. CRAIGIE and A. J. AITKEN (London, The University of London Press, 1937-90) – report an entrance for the plural of knowledge. So it is unlikely that Hamilton's interest in the noun was due to his acquaintance with Scottish lexicon.

<sup>21</sup> Despite this, Dwight Bolinger classifies «knowledge» under the label «non-degree/degree», cf. his *Degree Words* (The Hague, Mouton, 1972), p. 85.

«knowledge/s». Two examples will be sufficient to establish the point. In *The Philosophy of J. P. Sartre* edited by R.D. Cumming<sup>22</sup>, we find that a passage from *Being and Nothingness* is translated thus: «[...] a world of knowldges [«connaissance»] and techniques [...]». And David Bostock, in his *Plato's Theaetetus*, uses «knowldges» to translate the Greek «epistemai» with the meaning both of «various branches of knowledge» and that of «different things known»<sup>23</sup>. If the use of «knowldges» would also have been so practical in comparison to other foreign languages, why was it lost? Various factors might have contributed to the disappearance of the use of «knowledge» as a class noun, but the most interesting in this context can be summarized under two headings: linguistic and philosophical.

From an etymological perspective, «knowledge» was destined to be used as a mass-only noun because, since its origin, was already a *count noun only in a weak sense*. The point can be explained better by means of a technical device introduced by Keith Allan. In a recent article on the nature of countable nouns, Prof. Allan has suggested that *degrees of countability* could be assigned to (uses of) nouns «by setting up a test battery of countability environments»<sup>24</sup>. Percentage goes from the 0% of countability of «equipment» or «forniture» to the 100% degree of countability of «car». The percentage is determined by the types of countability environments in which a noun can occur. The higher the percentage, the more common a noun can be used as countable, being preceded by certain articles, quantifiers, and other class determiners. According to such quantification of countability, the development of the use of «knowledge» can be seen to proceed from an *already very low* level of countability to the present degree, which is *virtually*<sup>25</sup> 0%. So let me first offer a linguistic explanation for this intrinsic disposition of «knowledge» to lose its already low degree of countability.

Occurrences of «knowldges» and of «a knowledge» during the sixteenth and the seventeenth century are much rarer than the use of «knowledge» as a mass noun. This might have been so because «knowl-

<sup>22</sup> In *The Philosophy of J. P. Sartre*, ed. by R. D. Cumming, London, Methuen, 1965, p. 279. The passage where the sentence occurs is from *Being and Nothingness*: pp. 553-6.

<sup>23</sup> D. BOSTOCK, *Plato's Theaetetus*, Oxford, Clarendon, 1988, p. 32.

<sup>24</sup> Cf. K. ALLAN, *Nouns and countability*, «Language», 56 (1980), pp. 451-567, the quotation is from p. 566. I must refer the reader to the article for a proper appreciation of the elegant analysis of the issue there provided.

<sup>25</sup> I suppose that Prof. Allan would adopt a more precise analysis, giving the fact that still nowadays it is considered grammatically correct use «knowledge» in an expression like «a knowledge». But we do not need such a degree of precision of linguistic analysis in this context.



edge», as a *noun of action*, probably<sup>26</sup> did not originate from the verb «to know», with which we associate it nowadays, but originated as a transformation from the verb «to knowledge». During the thirteenth century «to knowledge» still had the meaning of the action of making a confession (confession, fact of knowing, acquaintance). Hence, «knowledge» had above all the meaning of a process, and as a noun its fundamental sense could more easily convey the idea of a sort of «solidified» action, of a certain state of mind, hence that of a unique relation to external reality, more than that of the discrete outcomes of such an action, relation, process, or state. We should not forget that what is important is not the number of actions that one does confess, but the unique fact that one confesses them. Since the action of knowing, like that of confessing, is unique, although contingent results are many, «knowledge» might have tended to become a mass-noun whereby the sense of holistic unity of the process is favoured more than that of discrete multiplicity of the effects of such a process. «Information», from this perspective, might have undergone a similar process. In Latin «informatio» is a 100% countable noun. During the Middle Ages, «informatio» acquired the technical meaning of «the process whereby external reality modifies the mind giving its form to it». Such a process is unique, and the uniqueness of «informing the mind» might have contributed to the use of «information» in English as a 0% countable noun.

Another factor that probably led to the disappearance of «knowledges» is the way we form participles in English. Ordinarily, this does not enable a speaker to formulate plural and singular nouns, as Latin does. Such indefinite value of «known» might have contributed to the disappearance of «knowledges» by not impeding it. «Known» does not have a declension, hence in order to understand whether what is known is one or more than one item of knowledge, we need longer expressions, like «thing/s that is/are known». If «known» does not give rise to a class of things known, but can equally refer to one or more items of knowledge, then why should «knowledge» be employed as a count noun?

If these conjectures are plausible, then «knowledge» was destined to lose even its already low percentage of countability, having an intrinsic tendency to become a mass noun only, since its origins.

The previous considerations become more illuminating once we take into account the diachronic evolution of the epistemic lexicon of English. First, it must be noted that «knowledges» was very often constructed analogously to the Latin expression. The less Latin was studied by British intellectuals, the less necessary it became to trans-

<sup>26</sup> Cf. the hypothesis presented in the *Oxford English Dictionary*, vol. X, p. 518, second column, note. The actual origin of «knowledge» is far from being established.

late Latin terminology into English, and the easier it might have become to forget about the plural of «knowledge». Secondly, in its diachronic evolution the use of «knowledge» also as a countable noun was contrasted by the firm acquisition by the English epistemic lexicon of «science» and «cognition» as two 100% *countable nouns*. The Anglicization of «scientiae» into «sciences» and of «cognitiones» into «cognitions» might be seen as a further obstacle to the use of «knowledge» as a class noun. If Bacon could still employ «knowledges» as synonymous to «sciences», by the time Locke was writing his *Essays*, two out of three of the senses in which it was possible or useful to speak of «knowledges» were already firmly covered by two other nouns that could be and were more commonly used as countable. Where was the need to appeal to the low and uncertain degree of countability of «knowledge» to be able to convey meanings better covered by «sciences» and «cognitions» in most of the cases? The use of «knowledge» could be limited to its original and stronger uncountable value.

Finally, I mentioned Locke as the turning point for the use of «knowledge» as a noun with 0% degree of countability in order to indicate that the history of epistemology might also have contributed to the disappearance of «knowledges». In the rest of the footnote already quoted above Hamilton says: «Knowledges, in common use with Bacon and our English philosophers *till after the time of Locke*, ought not to be discarded» [my italics]. Hamilton's footnote elicits several questions: (a) excluding Hamilton's failed attempt to restore the use of the term<sup>27</sup>, is it possible to date the final disappearance of «knowledges» to the beginning of the seventeenth century? (b) If it is, is it also possible to see in Locke's epistemology the last blow to the already low and undermined degree of countability of «knowledge»? And (c) who are these English philosophers with whom «knowledges» was still in common use? An answer to the last question will enable me to introduce some conjectures about the other two.

As Hamilton himself suggests elsewhere<sup>28</sup>, John Sergeant is one of those philosophers who used «knowledges» very commonly. John Sergeant [1622-1707] was a Catholic polemicist educated at Cambridge. His two

<sup>27</sup> It might be that the cultural atmosphere of the Scottish school of realism prompted Hamilton's interest in a late scholastic term such as «knowledges». This appears even more plausible if Alexandre Broadie is right in reconstructing Reid's anti-representative realism as not radically different from the late scholastic realism of the Scottish John Mair (cf. his article *Medieval Notions and the Theory of Ideas*, «Proceedings of the Aristotelian Society», 87, (1986-7), pp. 153-167).

<sup>28</sup> Cf. HAMILTON, *Lectures on Metaphysics and Logic*, cit. p. 57, footnote beta.

major philosophical works, *Method to Science* and *Solid Philosophy*<sup>29</sup> concern epistemological issues about which, he shows no great originality. Although his philosophy of knowledge amounts merely to a personal presentation of well known scholastic doctrines, in the present context his figure acquires a particular importance for two reasons: his use of «knowledges» and his radical criticism of Locke's theory of knowledge. On the one hand, Sergeant employs «knowledges» extensively and commonly – specially in *Solid Philosophy*, where he shows himself radically adverse to Locke's epistemology<sup>30</sup> – in order to formulate his scholastic position. Locke himself never used «knowledges», not even in the same way as Bacon did, in terms of «sciences». On the other hand, in the history of British philosophy Sergeant's attack on Locke's «new way of ideas» represents an interesting episode in the wider phenomenon of the passage from a more medieval, late scholastic conception of knowledge to the modern, post-Cartesian «theory of ideas». The evidence seems to elicit the following, plausible conjecture: from a philosophical point of view, the disappearance of «knowledges» could be interpreted as a secondary lexical effect of the vast conceptual revolution which occurred during the emerging of the «new way of ideas», a minor fissure in the deep fracture which occurred in the history of epistemology. Let me articulate this hypothesis in greater detail.

The bulk of Sergeant's epistemology is expressed in the following passage from *Solid Philosophy* (p. 42, all the following references are from this work): «Hence also we may gain some light what knowledge is. For it has been demonstrated that our Notions on which all our *knowledges* are grounded, and of which they are compounded are the very Natures of the thing known; and, consequently, that our Soul, considered precisely as knowing those Natures, or having them in her, as in their Subject, is, as *such*, those very Things, which are constituted by those Natures, wherefore, our knowing that those things are, or a such and such (which is Complete Knowledge) is the having of those things and their Predicates of Existent, or of their being affect-

<sup>29</sup> J. SERGEANT, *Method to Science* (London, 1696) and *Solid Philosophy asserted against the Fancies of the Idealists: or the Method to Science further illustrated. With Reflexions on Mr. Locke's Essay concerning Human Understanding*, (London, 1697). I have found no occurrences of «a knowledge» in these works.

<sup>30</sup> For more information about Sergeant's criticism of Locke cf. N. C. BRADISH, *John Sergeant: a Forgotten Critic of Descartes and Locke*, «Monist», 39 (1929), pp. 571-628; B. COONEY, *John Sergeant's Criticism of Locke's Theory of Ideas*, «Modern Schoolman», 50 (1973), pp. 143-58, and especially J. W. YOLTON, *Locke's Unpublished Marginal Replies to John Sergeant*, «Journal of the History of Ideas», 12.4, (1951), pp. 528-9 and *Perceptual Acquaintance from Descartes to Reid*, Oxford, Blackwell, 1984.

ed such and such Accidents, so in the judging Power as they are in the things without; that is, the things within her must be as the things in Nature are. Wherefore, when the Soul knows any thing in Nature she must *be* that thing *as it is* Another thing distinct from her; so that in a word, *To know is Esse aliud ut aliud*; To be another thing, as it is another. (underling in the text, my italics)». The fundamental principle that pervades all Sergeant's and generally speaking all late scholastic epistemology, is the Aristotelian doctrine expressed in *De Anima*, according to which during the first stage of the process of knowing the mind becomes what it knows. As John Yolton has put it: «He [Sergeant] belongs to that tradition in epistemology which explains knowing in the Aristotelian fashion as an absorption of the form of the objects by the mind. The form constituting the essential features of the object which is known»<sup>31</sup>.

Unfortunately, as Locke remarks on his own copy of *Solid Philosophy*, how a material thing can exist spiritually in the mind is far from being clear<sup>32</sup>. And despite the fact that Sergeant seems to be aware of the difficulties that such a principle may encounter<sup>33</sup>, his own attempts to make the idea that «anima intelligendo fit omnia» more acceptable are not very persuasive. In order to deal with the issue, Sergeant is forced to assume – on the side of the nature of the mind – a strange physical description of the «seat of knowledge» as «the most tender that can be imaged that the least Effluviiums may affect it»: he goes so far as to specify that it cannot be of a gelatinous nature, because otherwise it would stick to the effluviium irrevocably (p. 67). On the side of the nature of reality, the Aristotelian doctrine forces him to adopt and re-elaborate the classic distinction between matter and form. In order to make it possible for the mind to become something other than itself, reality must be interpreted as consisting also of a spiritual or immaterial part, as possessing a noetic component which renders possible the presence-absence of things in the mind. We have seen in the quotation that Sergeant's technical term for such component is «notion»<sup>34</sup>. As he had already explained» [a]

<sup>31</sup> J. W. YOLTON, *John Locke and the Way of Ideas*, Oxford U. P., 1956, p. 109.

<sup>32</sup> Locke's copy of *Solid Philosophy*, now in St. John's Library, Cambridge, is full of annotations and comments by Locke himself. On page 59 of Sergeant's book Locke asks «what is it for a material thing to exist spiritually?», and on p. 66 «what is it to be corporeo-spiritual?» (other similar sceptical comments are on p. 76 and 123).

<sup>33</sup> Cf. again *Solid Philosophy*, the whole par. 26, and *The Method to Science*, p. 21. Such problems still trouble neoscholastic accounts of the first stage of the process of knowing; cf. for example F. VAN STEENBERGHEN, *Epistemology*, ed. by L. MOONAN, New York, Wagner Inc., 1970 pp. 101-7.

<sup>34</sup> For a reconstruction of the relation between the conception of «notion» and that of «idea» in the passage from a late scholastic philosophy and modern post-Cartesian epistemology cf. ALEXANDER BROADIE, *Medieval Notions and the Theory of Ideas*.

Notion is the very thing itself existing in my understanding» (p. 27) and «Notion must be the very things themselves (as far as they are known) in our Soul» (p. 28, underlining in the text). Notions are the epistemic side of things<sup>35</sup> and «knowledges» are their combinations in more complex unities. Sergeant's epistemology and his realism, as an example of the scholastic approach to the nature of knowledge, is largely dependent on a certain description of reality and it may be called a metaphysical epistemology. He looks at the nature of knowledge from the point of view of the kind of description of reality that may suit the doctrine that the mind becomes what it knows, from the point of view of an ontological interpretation of what things are and what they do to the mind when they *inform* it<sup>36</sup>. Sergeant's metaphysical concern for the multiplicity of the objects known, and therefore for a multiplicity of notions or noetic aspects of these things, is evident in what he says about the two perspectives from which it is possible to study the nature of knowledge: one is «the act of my knowing power», the other is the «object of that act, which as a kind of Form, actuates and determines the indifferency of my Power, and hence specifies my Act» (p. 26). Sergeant is very careful in specifying that when he uses the word «notion» he does not talk about the act of knowing, but about «the Object in my mind which informs my Understanding Power, and about which that Power is Employed; in which Objective meaning I perceive Mr. Locke does also generally take the word «idea» (*ibid.*, underlining in the text). It is probably because of this «ontological» interest, and such an emphasis on the multiplicity of the objects as knowables informing the mind, that Sergeant is led to use the plural of «knowledges» so commonly: there are as many notions as things known or knowables, hence as many «knowledge» as agglomerates of notions (cf. p. 319). Sergeant's «knowledges are a middle way between *cognitiones* and *res cognitae*. They are not completely dependent on the knowing subject because they represent the actual nature of things as they are in themselves, but they are not completely independent of the knowing subject either, since they require a «place» on which things can explicate (actuate) their epistemic nature. For Sergeant, things exist as *res* and as *cognoscibilia*, or potential notions. Such ambiguity is precisely what

<sup>35</sup> Cf. YOLTON, *Locke's Unpublished Marginal Replies to John Sergeant*, cit., p. 548.

<sup>36</sup> «J.S. speaks every where as if *Truth* and *Science* had personally appeared to him and by want of mouth actually commissioned him to be their sole defender and propagator. [...] I wish he would tell us how he comes to know them [all these things], for I fear in this matter makes God like unto himself and measures the Divine understanding by his own» (Locke's comments on p. 239 on p. 396 respectively of *Solid Philosophy*).

makes Sergeant think that his position is safer than Locke's from a sceptical dichotomy between reality as it is in itself and reality as it is known by the knowing subject. As he says: «[...] if I have only the idea, and not the Thing in my Knowledge or Understanding, I can only know the Idea, and not the thing; and, by Consequence, I know nothing without me, or nothing in Nature». And if this were so «adieu to the Knowledge of Things, or to Philosophy» (p. 30, underlining in the text)<sup>37</sup>.

Sergeant used «knowledges» to convey the meaning of «things existing in the mind in their noetic/epistemic nature». Human knowledge consisted of notions received by the passive mind, and it was possible to talk of discrete «knowledges» because reality was interpreted as consisting of things that were in themselves already discrete knowables: «knowledges» were the actualizations in the human mind of the intelligibility of each single part of the world. The already feeble degree of countability of the use of «knowledge» presupposed a scholastic epistemology of things/knowables affecting the mind isomorphically. And the lexical crystallization into «knowledges» of a scholastic epistemological doctrine presupposed the ontological stress on the intelligibility of the external world. The scholastic philosophy did not resist the impact with the modern subjectivist turn whose starting point in England is represented, if not by Locke's epistemology itself, at least by its most common interpretation *à la* Reid. That Locke was the turning point seems to be confirmed by the facts that (a) in his comments on *Method to Science* he never adopts the plural noun; that (b) he does not make any comment on what to us seems nowadays a peculiar use of the word, and that both (a) and (b) are possible despite the fact that «knowledges» occurs very commonly in the text. Locke was not surprised by the use of the plural of knowledge, yet he does not take advantage of the possibility of using the term also as a count noun, why? Because, as he says on p. 382, (next

<sup>37</sup> Sergeant, like many other of his contemporaries and then Thomas Reid, might have had a superficial understanding of the Cartesian/Lockean efforts to elaborate the notion of «idea» solely in terms of «resemblance» or «similitude», disregarding the conception of ideas as what stands, almost semiotically (i.e. in terms of significative, not physical presence), in the mind, for what is in reality. Indeed Locke seems always very surprised by this dualist reading of his theory. For example, when on p. 23 Sergeant says that Locke by the word «idea» means «[...] a Resemblance, Similitude or Image [...]», Locke comments «where?». Again, on p. 343 Sergeant says: «[...] for he [Locke] expressly says these Complex Ideas are made by the Mind [...]». And Locke's note attached to «says» states: «Where does he [i.e. Locke himself] say so?». And on p. 351 Locke writes: «He [Sergeant] argues agt [against] Ideas because they are similitude and yet blames M<sup>r</sup>L [Mister Locke]: in many places, for saying they are not similitudes, particularly p. 347».

to one more occurrence of «knowledges»): «Knowledg [*sic*] has its bottom only in the perception of the agreement or diversity of any two Ideas and is neither founded nor can be induced to identical Propositions»<sup>38</sup>.

D. J. O'Connor has said that «Locke uses the word «know» and «knowledge» in an even narrower sense than that of «knowing that». No form of «knowledge» is worthy of the name for him unless it satisfies at least two conditions: (a) I must be absolutely certain of what I am said to know; (b) I must be *justifiably* certain»<sup>39</sup>. Even though Prof. O'Connor's interpretation may be too radical, certainly in Locke there is a more restricted use of «to know» and of «knowledge» than in Sergeant. This can be seen as a consequence of the fact that the Cartesian revolution leads philosophers to focus more on whether, and if so, how knowledge is possible, and less on the nature of what is known. What matters now are not so much the knowable things that are the origins of the process of knowing, nor its known outcomes, but above all the nature of the intermediary, epistemic process which produces knowledge out of reality. Detached from the ontological assurance in an intelligible world, the notion of «knowledge» is internalized, coming to denote above all a relation of the knowing subject to his or her own ideas, or a relation among ideas, no longer the nature of things as intrinsically knowable or their effects on the mind. After Descartes and Locke, an investigation into the nature of «knowledge» can hardly be conceived without an investigation into the knowing mind. If there is still a bridge between man and reality, after the Cartesian turn this will consist no longer of «knowledges» as a set of «notions» but of «ideas», a perfectly countable noun. Sergeant seems to be implicitly aware of this shift when he says: «[...] since Mr. Locke affirms that we know nothing either by Direct or reflex Knowledges, but by having Ideas of it» (p. 20). The meaning of *res cognitatae* implicit in «notions» and therefore in «knowledges» fades and that of *res cogitatae* emerges as already implicit in the new technical term «ideas». Since the relation with ideas or the process of knowing is unique, and «sciences», «cognitions» and now «ideas» cover almost the whole semantic area previously covered by «knowledges», no reason seems to be left for stretching the use of «knowledge» as if it were a class noun.

Locke's epistemic lexicon was very influential: the *Cyclopedia or Universal Dictionary of Art and Sciences*, edited by Ephraim Chambers

<sup>38</sup> Throughout Locke's comments there are at least a dozen occurrences of «knowledge» without the final «e».

<sup>39</sup> D.J. O'CONNOR, *John Locke*, New York, Dover, 1967, p. 26. Prof. O'Connor refers e.g. to Locke's *Essay* IV. 16.3, and he is critical of what he considers too strict requirements.

and first published in London in 1728, the *A new and Complete Dictionary of Art and Sciences comprehending all the Branches of Useful Knowledge*, first published by W. Owen in London in 1754 and *The Complete Dictionary of Arts and Sciences* ed. by Henry Temple Crocker in London in 1765, to give the most striking examples, actually report «Mr. Locke's definition» of «knowledge» as «the perception of the connection and agreement or disagreement and repugnancy, of pure ideas»<sup>40</sup>. Implicitly, Ben Halpern has well represented the present, post-Lockean perspective by saying: «[in] contrast [to «opinion» and «theory»] «knowledge» is not used at all in the plural. Thus, it refers essentially to an isolated (abstract) relationship of a subject and an object, and is never used for plural or alternative relationship of subjects and objects»<sup>41</sup>. If my conjectures are justified, while enriching the epistemic lexicon of English at least with the class noun «idea», Locke impoverished it of the plural of «knowledge». With a little hyperbole the disappearance of «knowledges» from the philosophical language can be linked to the end of Scholastic philosophy and the beginning of the era of «Epistemology as Philosophia Prima».

### *«Objective Knowledge» and Contemporary Thought*

One way to understand the relation between the two key-terms «knowing» and «knowledge» is by interpreting them as referring respectively to «the epistemic process or activity» and to the «epistemic outcome or product of such an epistemic process or activity». If the process of knowing (P-knowing) can be analyzed into an epistemic relation ( $R_e$ ) occurring between an arbitrarily chosen Human Knowing Subject (HKS) and an arbitrarily chosen Knowable Topic (KT), that is « $R_e$  (HKS, KT)», then  $R_e$  (HKS, KT) can be seen as producing a certain objective output called «knowledge» (R-knowledge) where «R» stands for «resulting») and « $R_e$  (HKS, KT) produces R-knowledge» can lead us to speak of all the possible items of human R- knowledge {R- knowledge<sub>1</sub>, R-knowledges<sub>2</sub>, ..., R-

<sup>40</sup> *A new and Complete Dictionary of Arts and Sciences*, vol. II, p. 1838. Among the dictionaries and lexicons listed in G. TONELLI'S *A short-title List of Subject Dictionaries of the sixteenth, seventeenth and eighteenth centuries as aids to the History of Ideas* (London, The Warburg Institute, Univ. of London, 1971), *A general Dictionary of the English Language* by THOMAS SHERIDAN, London 1780 does not report Locke's definition, yet as all the others dictionaries also Sheridan's lacks any entrance for «knowledges».

<sup>41</sup> B. HALPERN, 'Myth' and 'Ideology' in *Modern Usage*, «History and Theory», 1 (1963), p. 130, note 3.



knowledge<sub>n</sub> } as constituting a set of countable *instances* of *knowledge* ( $S_{ik}$ ) which are the final product of the process of knowing. The possibility of manipulating members of infinite subsets of  $S_{ik}$  by means of set-theory and quantifiers can urge us to adopt a noun that is provided both with a singular and a plural. If Prof. Yolton is right in believing that «[t]he role of any of the special language is to alter the usual meaning of words so to as catch significances otherwise passed over»<sup>42</sup>, and that «the notion of the philosopher naively misled by grammar should be replaced by that of the philosopher purposefully trying to mould language to his use»<sup>43</sup>, then in this case our theoretical framework may require a modification in our epistemic lexicon, so that the noun «knowledge» can take into account the conceptual distinction between one and more products of the process of knowing. Such a shift from using «knowledge» only as a *mass noun* to using «knowledge» as a *class noun* would allow the distinction between one and more «R-knowledge/s», while the use of «knowledge» as a count noun would always make clear that what is being discussed is knowledge as the formulated, final product of previous epistemic activities. We have seen that «sciences» and «cognitions» have come to replace «knowledge», but it is also clear that the meaning of «knowledges» as *res cognitae*, that is as the actualizations of *knowables*, is only partially covered by the term «ideas». In fact the latter bears too subjective a value to be adopted as synonymous to «what is known» or «things known». We shall see in a moment that the noun «information» has also been proposed to refer to the outcome of the process of knowing. But, apart from other problems, «information» would obviously run into the same difficulties as «knowledge» in relation to its countability. A countable use of «knowledge» seems precisely what is useful here in order to convey the meaning of «discrete items of knowledge produced by the process of knowing». The point can be clarified better by seeing how the introduction of a countable use of «knowledge» helps to cast light on some contemporary issues.

A first effect has been already hinted at in the precedent paragraph. We have already seen some lexical and syntactic characteristics of «knowledge» as it is used in contemporary standard English; to those we may now add that semantically, «knowledge» being a mass noun is cumulative (it is supposed to be true of any sum of things or matter of which it is true), and dissective (it is supposed to be true of any part of anything of which it is true). While a count, class or sortal noun like «belief» refers to «entities» conceived as discrete members of a class, «knowledge» as a mass noun refers to «entities» conceived as

<sup>42</sup> YOLTON, *Metaphysical Analysis*, cit., p. 198.

<sup>43</sup> J. W. YOLTON, *Metaphysical Analysis*, Toronto, University of Toronto Press, 1967, p. 198.

continuous. Now it has been suggested by Harry Bunt that «since a mass term does not individuate its reference, it would seem that we should not use sets in the same way in formalizing the denoting of a mass term. Indeed, it seems intuitively wrong to ask what members constitute the sets that mass terms like [...] [knowledge, my *addendum*] refer to. Many authors on mass terms therefore believe that we need something other than sets in a formal description of mass terms semantics [...] Several special formalisms and variants of Lesniewski's mereology (also known as «calculus of individuals») have been suggested. However, abandoning the framework of set theory leads to often underestimated technical problems [...]»<sup>44</sup>. Mereology, originally developed by Lesniewski in 1929, and the calculus of individuals, a reformulation of mereology due to Leonard and Goodman in 1940, are logics of part-whole, no longer of member-class. In order to manipulate mass nouns, instead of classes we have «mereological wholes» formed by parts. «Water» as a mereological whole can be used to formalize the intuitive notion of «the totality of water» or interpreted as comprising the «sum» or «fusion» of all the parts of water. Obviously, a direct consequence of the restatement of a countable use of «knowledge» would be its exclusion from the list of the terms which require a special logic of the part-whole relation. Without the need of mereological interpretations we could simply adopt the standard framework of set-theory: we could quantify over instances of knowledge, in terms of «one knowledge», «two knowledges» etc., as we do over «belief». As a further consequence, the case of «knowledge» may lead us to think that what is true of this noun may be true of most of the other terms that in English seem to require a mereological calculus. Of course we may be interested in the logic of the part-whole relation in itself, and indeed David Lewis has recently argued in favour of a mereological interpretation of some central notions in set-theory<sup>45</sup>, but what would happen to the *linguistic importance* of mereology if we could give the same reconstruction given for «knowledge» also for the countable use of «water», «luggage», «rice», «music», «gold», «wood», «silver», «air», «leisure», «traffic», «justice», «safety», «constancy», «furniture», «fruit», «footwear», «information» and so on? It may be interesting to note that e.g. all the Italian translations of those terms admit of a countable use. Does this mean that mereology is due to the special nature of English or that «the genius of [Italian] language is abstract, romantic, imprecise and enormously seductive [and therefore that we should] live Italian by all means, but do philosophy in English<sup>46</sup>»? I leave the answer to the taste of the reader.

<sup>44</sup> BUNT, *Mass Terms and Model-theoretic Semantics*, cit., p. 5.

<sup>45</sup> D. LEWIS, *Parts of Classes*, Oxford, Blackwell, 1991.

<sup>46</sup> ZIFF, *Epistemic Analysis*, Dordrecht, Reidel, 1984, p. 76, note 32.

A further consequence of the possibility of quantifying over «knowledge» would be that of facilitating the elaboration of investigation such as that led by Fritz Machlup<sup>47</sup> about the universe of the production of knowledge or «knowledge industry». At the beginning of his innovative economic analysis of the production and distribution of knowledge, Machlup distinguishes two fundamental senses for «knowledge»: «knowledge» as something we may possess or that can be stored, increased, decreased, developed etc. – as when we speak of having acquired «much knowledge» – and «knowledge» as a state of knowing, as when we speak of «having knowledge» of this or that<sup>48</sup>. Admittedly, Machlup may be right when he says that «philologists, philosophers and sociologists have made much fuss about the ‘poverty’ of the English language relative to other civilized languages» (p. 29), yet it seems obvious that once we start talking about production and distribution, stocks and flows of knowledge as a product it would be useful to have a countable noun that might allow for some kind of quantification, hence a possible unity of measure. Propositions or linguistic knowledge as well as diagrams, figures, flow charts, schemes, alphanumeric formulae etc. would then become expressible in terms of «knowledges», no longer, as Machlup is forced to do, in terms of «bits», or «pieces of knowledge».

Also our interpretation of the so-called «standard account of knowledge» (SAK) as justified true belief may be influenced by the re-introduction of a countable use of «knowledge». Much has been said about the SAK, and in this context I only mean to add some remarks prompted by the lexical point of view so far discussed. The re-introduction of a countable use of «knowledge» could help in making clearer the importance of the SAK for a correct understanding of the nature of knowledge. Apparently, the SAK does not concern knowledges as items of knowledge resulting from the process of knowing but rather the possibility of assessing S' claims to have knowledge that p. In fact, at least since Prof. Gettier's article, epistemologists working on the SAK have attempted to «state[s] necessary and sufficient conditions for *someone's knowing a given* proposition [my italics]»<sup>49</sup>.

<sup>47</sup> *Information Through The Printed World*, eds. F. Machlup and K. Leeson, 3 vols. (New York, Praeger, 1978), especially vol. 3 entitled *The Dissemination of Scholarly, Scientific and Intellectual Knowledge*; F. MACHLUP, *Knowledge: its Creation, Distribution and Economic Significance*, 3 vols. (Princeton, N.J., Princeton U.P., 1980-4) especially vol. 1 entitled *Knowledge and Knowledge Production*; and F. MACHLUP and U. MANSFELD, *The Study of Information, Interdisciplinary Messages*, New York, John Wiley and Sons, 1983.

<sup>48</sup> MACHLUP, *Knowledge and Knowledge Production*, cit., p. 27-8.

<sup>49</sup> E.L. GETTIER, *Is Justified True Belief Knowledge?*, «Analysis», 23, (1963), pp. 121-3.

How it happens that such a proposition is given as true is not a matter for discussion. Rather, the SAK ends by analysing S' requisites for being awarded the title of «knower». If this is so, then the re-statement of a countable use of «knowledge» elicits the following reformulation: the SAK attempts to state necessary and sufficient conditions for assessing S' *claim to know a knowledge*. Such a reformulation throws some light on the importance of the SAK for the understanding of the fundamental nature of knowledge. The SAK is not concerned with the question *what* knowledge is as a phenomenon in itself, or *whether* and if so *how* knowledge of the world can be *produced*, but with the possibility for S to become a member of the society of knowers who already know at least that p is true and why it is true. That this is so appears clearly, for example, from the phenomenology of the so called Gettier-type problems. In order to be able to judge whether and for what reasons S knows that p, the tribunal of the SAK (generally the writer and the reader) must assume that it is already known that p is true and why p is true. Only from this God's-eye perspective it is always possible for the «judges» to construct cases such that S has the wrong reason to believe what is true. This introduces a further *conditio sine qua non* for having the classic phenomenology of Gettier-type counter-examples, namely S' limitations as a knower. Indeed, there seem to be no Gettier-type problems when  $S =_{\text{def.}} \text{God}$  and p concerns the state of the universe, or when  $S =_{\text{def.}} \text{Conan Doyle}$  and p concerns the life and the adventures of Sherlock Holmes. In both cases S' knowing that p simply makes what p states happen (although in the case of Conan Doyle there are some restraints in terms of consistency, whereas, at least according to Descartes, this is not the case if we are talking about God). In conclusion, when we are discussing the nature of knowledge on the basis of the SAK, the metalevel – whether, and if so, how the judges came to know the truth about the specific case in question – is not problematized. This is a version of the approach that Dewey called the spectator theory of knowledge: we already know the story and we want to see whether S can aspire to the same epistemic state. Dewey thought that any such «external» approach was an unacceptable way of investigating the nature of knowledge. We may reply that the objection does not apply to the SAK insofar as the latter does not aim at the final understanding of what knowledge is but only at the «externalist» (in a Deweyan sense) analysis of the conditions that make it possible to say whether S knows that p. But the answer, while being satisfactory, shows also the limits of the approach, for it makes clear that, even if it were possible to state such conditions (and this, we know, is far from being obvious), we would still have the major, original problem of understanding what p is as an instance of knowledge. This problem cannot be solved without bring-

ing into play an epistemological theory of truth about the world – in what sense, if there is any, knowledge says something true, or, if I am a fallibilist, something which so far has not been falsified, about the world – and genetic/teleological considerations about what the process of knowing consists in, and why there is such a phenomenon of the production of knowledges, what it is aimed at. As long as the SAK aims at a definition of «S knows that p» by presupposing instances of knowledge, we are still far from a satisfactory interpretation of the nature of knowledge itself, as the peculiar phenomenon that takes place in the relation between man and reality.

One last philosophical context within which the re-statement of «knowledges» may have interesting consequences is represented by Karl Popper's attack on traditional epistemology. Since Popper's proposal for an epistemology without a knowing subject has been already subject to criticism<sup>50</sup>, as before I shall limit myself only to some remarks connected to the lexical analysis developed in this paper.

Very briefly, in the *pars destruens* of his famous article<sup>51</sup>, Popper objects to the classic epistemological tradition as being interested merely in the investigation of the subjective nature of beliefs: Descartes, Locke, Berkeley, Hume, Kant and Russell studied knowledge only in a subjective sense. And this led classical epistemologists into irrelevances: while intending to study scientific knowledge, they had in fact studied something which is of no importance for scientific knowledge. According to Popper, scientific knowledge is not knowledge in the sense of the ordinary usage of the word «I know». This is a manifestation of what he calls the «second world» of *subjects* and which he labels subjectivist. On the contrary, scientific knowledge belongs to the third world, that of objective theories, objective problems, and objective arguments, the second world being that of physical reality. «Knowledge in this objective sense is totally independent of anybody's claim to know; it is also independent of anybody's belief, or disposition to assent, or to act. Knowledge in the objective sense is knowledge without a knower [...] (p. 109)». It is this kind of objective knowledge that epistemology should investigate. In fact, this would amount to an elimination of epistemology as philosophy of knowledge whose task is e.g. dealing with sceptical questions, in favour of philosophy of science. Insofar as epistemology does not flow into some cognitive science, it should be limited to being part of

<sup>50</sup> Cf. S. HAACK, *Epistemology with a Knowing Subject*, «Review of Metaphysics», 33, (1979), pp. 309-335.

<sup>51</sup> K.R. POPPER, *Epistemology without a Knowing Subject*, in «Objective Knowledge», Oxford, Oxford U.P. 1972, pp. 106-152.

methodology. Popper's methodological epistemology investigates knowledge as a purely extensional notion, and more intentional aspects of knowledge as the state of knowing, the cognitive processes or the process of knowing *tout court*, have to be left to psychology.

The meaning of Popper's notion of objective knowledge seems very close to the more objective meaning of our scholastic «knowledges». I said above that it was important to distinguish between «knowledges» as «cognitions» had by a singular knower, and «knowledges» as *res cognitae*, items of knowledge already formulated, independent of an individual's knowledge and that a knower may or may not come to know. The rationale of that distinction is now evident. Popper's third world can be seen to consist not only of knowledge as the result of the process of knowing, i.e. knowledges, but also of knowledge only of the second and third types. Only if we draw such a distinction can we say, as Popper wishes to say, that libraries represent enormous deposits of «knowledges» in terms of *res cognitae* (*notitiae, informationes*) and *scientiae* independent of any single knower, not in terms of *cognitiones*. Somehow this step has been taken by Popper himself (cf. his remarks on «knowledge» on p. 110-1) and other sympathetic interpreters of his position. Mark Notturmo, for example, in commenting on Popper's notion of the third world, says that «Popper's concept of subjectless knowledge is a legitimate use of the word 'knowledge'. It corresponds to the sense of 'knowledge' as *information* or *a branch of learning* (my emphasis)»<sup>52</sup>. However, I believe that Popper's use of «knowledge» is legitimate only if we adopt the device of introducing a plural notation, in order to make clear that it is not the process or relation of knowing or informing which is in question, but knowledge as the final product, either in terms of specific items (various knowledges) or as their complex compounds or bodies (sciences). Prof. Notturmo's «information» cannot do the same job so successfully. Not only because «information» is another mass term, but also because the term pushes us implicitly and misleadingly towards certain linguistic uses that could make the notion of subjectless knowledge too radical, while it would render some others more difficult. We are more likely to say that pieces of information are impersonally exchanged, communicated, reached, elaborated, stored, recorded, stolen and the like, using verbs indicating the dynamics of something which is already there, independently

<sup>52</sup> M.A. NOTTURNO, *Objectivity, Rationality and the Third Realm: Justification and the Grounds of Psychologism. A Study of Frege and Popper*, Dordrecht, Martinus Nijhoff Publishers, 1985, p. 153.

of any human subject, whereas we tend not to say, as in the case of knowledges, that they are formulated, created, developed, or originated, all verbs which refer to the coming to be of instance of knowledge.

Once Popper's third world is interpreted as «the world of knowledges», his proposal for a subjectless epistemology calls for some criticism which in turn may lead to a feeling of regret. To start with, it is not clear why, if the only acceptable items that may populate the third world are knowledges, epistemology and not economy or sociology is the discipline that should investigate it. Machlup's studies, mentioned above, are an indicative example. Perhaps a reply may be that the other various elements that according to Popper inhabit the third world, like false theories, problems, conjectures, states of a discussion and of critical arguments etc. require a special care from epistemology. Or maybe a better answer could be that economy and sociology study the nature of the realm of knowledges historically, while epistemology investigates its logical nature and development, with a concern for a normative analysis. However this may be, if the third world is populated by knowledges, it is still unclear why the investigation in the source of these knowledges is irrelevant to their nature and destiny. According to Susan Haack, Popper's use of the adjectival dichotomy «objective» vs. «subjective» in connection to «knowledge» is ambiguous<sup>53</sup>. Whether one agrees or not with her criticism, I believe everybody will recognize that the autonomy of the third world, the central point on which Popper's proposal hinges, is constructed by Popper himself on an analogy which is slightly misleading. The point is worth of some attention because is left implicit by Prof. Haack. On page 115 of his article, Popper introduces the following remarks: «One of the main reasons for the mistaken subjective approach to knowledge is the feeling that a book is nothing without a reader; only if it is understood does it really become a book; otherwise it is just paper with blank spots on it. This view is mistaken in many ways. [...] [A] book remains a book – a certain type of product – even if it is never read». Let me first say that I take it is already questionable to maintain that a book is a book even if there was not, is not or never will be a reader. The notion of «book» as that of «knowledge» is understandable only in conjunction with that of a reader or a knower. If we miss the second notion / term, the other may come to stand for anything. Perhaps, then, we could also say that «ashes» are

<sup>53</sup> Cf. HAACK, *Epistemology with a Knowing Subject*, cit., pp. 307-317.

books, although we cannot imagine who is the «reader» who is going to «read» them. But suppose we were to concede to Popper the validity of his argument; the surprising fact is that post-Cartesian epistemology does not interpret the relation between knower and knowledges (note, not between knower and reality) as that between reader and book, but rather as that between writer and book. We may play analogically with the couple book/reader to state the necessity of analysing the book without taking into account the reader, but we cannot say that books are what they are even if there were no authors. Popper seems to be aware of this difficulty because immediately after the previous quotation he starts talking about the possibility of there being no books without writers. He objects that in fact there may be such books, as there are data produced by computers developing programs somehow independently. But the reply is not very satisfactory: who has programmed these computers? where do these never-known-by-any-knower knowledges come from? Traditional epistemology may be too subjectivist, but it is not very easy to state meaningfully what in fact would count as subjectless objective knowledges; unless what Popper had in mind is some kind of independence of knowledges from the *individual* subject. But this reasonable position, according to which the realm of knowledge transcends each singular knower, does not seem to be Popper's own. If it were, in the context of Popper's article it would be scarcely interesting. It is obvious that epistemology is concerned with human knowledge, not with a specific human knowing subject's knowledge.

At this point we reach a sort of regret about Popper's treatment of his own interesting notion of the third world. On the one hand, it is undeniable that in epistemology we do not have any other choice but to start from the obvious fact that, in the long run, the genesis of knowledges depends on the mental capacities of the Human Knowing Subject, without which there would not be any knowledge at all. This is to say that, in the process of knowing, the cognitive activities of a HKS are a *conditio sine qua non* for the emergence of knowledges. It may be that there are many knowledges that nowadays are not known by anybody. We have only to think of the many archives and libraries in the world. Yet, there is no one single knowledge stored somewhere at time  $t_x$  which more or less directly does not depend on the human mind and its activities for its formulation at time  $t_{x-y}$ . In this sense, knowledge is a thoroughly historical (i.e. due to the presence of human beings on the earth) phenomenon. On the other hand, we may regret that Popper has not analysed the similitudes that there are between the second and the third world. The increasing accumulation



of knowledge through human history is such, and the pressure of «the world of knowledge» on the individuals is so high, that it would have been interesting if Popper had developed his theory of the third world in the direction of an interpretation of knowledges as somewhat crystallized mental components of external reality, another ingredient of the external world with which each of us, as *individual minds*, has to deal, as another, although more human, constituent of the environment within which we need to lead our lives and adapt ourselves. Popper does not recognize that the third world requires an ontological investigation as much as the second world does. Thus, while stressing the fact that «we are workers who are adding to the growth of objective knowledge as masons work on a cathedral»<sup>54</sup>, he does not admit of the importance of questions about the need of such a cathedral, its scopes and its history.

#### *Conclusion: The Intelligibility of «Objective Knowledge»*

John Yolton has stressed that if Sergeant were right about Locke's dualism, he too was eventually forced to endorse a form of dualism, viz. that between things and notions, in order to solve the sceptical problem of knowledge. The difference, I would suggest, consists in the fact that Sergeant's use of «knowledges» mirrors a metaphysical dualism, while the disappearance of «knowledges» in the modern epoch signals the replacement of such a metaphysical dualism with an epistemological one, internalized within the experiencing mind itself. Kant's epistemology – as perhaps the last expression of the modern epoch of Epistemology as *philosophia prima* – with its interpretation of knowledge as phenomenal, reported, we may say almost forced back, the dualism between the mental and the non-mental on that half-epistemological and half-metaphysical threshold that is the distinction between noumenal and phenomenal reality. Apparently, the metaphysical approach with its ontological scepticism-proof dualism has never been regained. And yet, what happens nowadays is that the enormous quantity of knowledge produced and variously stored places us in a situation similar to Sergeant's. As a late scholastic philosopher he thought about the world as a fully intelligible external reality. We have lost such certainty, but we have acquired another type of reality, an entire universe of codified knowledges that lies beside or perhaps wraps up physical reality and is as com-

<sup>54</sup> POPPER, *Epistemology without a Knowing Subject*, cit., p. 121.

pletely autonomous from ourselves as single individuals as is the natural world. Already in 1699 Thomas Baker could write that «[...] learning is already become so voluminous, that it begins to sink under its own Weight; Books crowd in daily and are heaped upon Books, and the Multitude of them both distract our Minds, and discourage our Endeavours»<sup>55</sup>. In connection to this «external reality of knowledge» which is part of the environment whose challenges we must more or less successfully answer, we may feel ourselves to be in a relation similar to that in which a scholastic philosopher could think he was as regarded nature, a relation of potential full understanding and knowledge of something which may be in itself thoroughly intelligible. Living within the universe of knowledge we should be confident about the possibility of a full re-appropriation of those knowledges which are a human product. Perhaps this is what Vico saw when he declared the epistemological superiority of the historical disciplines. This may also count as a further justification for the re-statement of a late scholastic term like knowledges within our contemporary epistemology<sup>56</sup>.

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<sup>55</sup> T. BAKER, *Reflections upon Learning, wherein is shown the insufficiency thereof in its several Particulars. In order to evince the Usefulness and Necessity of Revelation*, London, 1699, p. 10.

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