# For reflexivity as an epistemic criterion of ontological coherence and virtuous social theorizing

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## Abstract

This article offers an approach that combines, on the one hand, the philosophical notion of reflexivity, which is related to the ideas of self-reference and paradox, and, on the other hand, the sociological discussion of epistemic reflexivity as a problem of coherence, which was mainly initiated by certain branches of ethnomethodology and social constructionism. This combinatory approach argues for reflexivity as an *epistemic criterion of ontological coherence*, which suggests that social ontologies should account for the possibility of self-reflective subjectivity – for otherwise they result in a *paradoxical* conclusion according to which a social scientist *reflects* on her or his ontological commitments *even though these commitments deny her or him the capacity for self-reflection*. This analysis presupposes that all human sciences are categorically premised on social ontologies; and it argues for an analytical distinction between self-reflection, which refers to the agential capacity for reflecting on one's own commitments, and the epistemic criterion of reflexivity hereby proposed. These two analytically distinct though interdependent socio-theoretical concepts are frequently conflated in the literature; thus, this article also aims at a 'clearing of the ground' that can be of categorical use to the human sciences.

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## Introduction

Despite the significance of the concept of reflexivity in contemporary social theory during the last three decades, only a few efforts have been made to clear the theoretical ground and to respond to the criticism it has received. Its obscurity is mostly related to the different theoretical roles it has been given in the texts of the various sociological traditions. What is frequently misunderstood by many authors is that in the literature 'reflexivity' refers both to agential powers and to the epistemological prudence it is supposed to entail for those theories that adopt it as a principle. And this dual semantic content can generate further confusion around a socio-theoretical concept which is already abstract and confusing enough as it is.

In order to reconcile and make sense of the different and even contradictory roles and social norms that pertain to each situation and context, social actors necessarily *reflect on* their life trajectories, and therefore one could reasonably claim that there is nothing epistemically significant in the ordinary and trivial everyday agential conduct of self-reflection. For, after all, in the era of 'reflexive modernization' (Beck, Giddens and Lash, 1994), social actors have no other alternative but to reflect on their needs, their interests and their context all the time. Yet, apart from treating it as a trivial everyday accomplishment (by frequently acknowledging that, without it, social life would be unintelligible), opponents of epistemic reflexivity have also argued that, in its generality, reflexivity lacks the epistemic virtuousness that its various supporters attribute to its principled application. Since reflexivity, in general terms, signifies 'thought as bending back upon itself' (Tauber, 2005: 50), one can object that 'turning explanatory premises back upon oneself' does not constitute a new, revolutionary epistemological or methodological recipe. For, again, scientists reflect on past and present theories, methodologies and common strategies all the time.

In this respect, the first aim of this article is to distinguish between these two different meanings, which are frequently expressed by the same term: (1) self-reflection, which signifies the agent's capacity to reflect upon himself or herself, upon different and/or contradictory roles, norms and ideas, as well as upon his or her position in a greater cultural or local context, and which includes the self-reflective conduct on the part of the scientist; and (2) epistemic reflexivity, which signifies a property of *grande* theories about social life and, more specifically, the problematic that arises from the self/auto-referential[1] properties of social ontologies; this is the idea that general ontological descriptions of structure, culture, institutions, organizations and agency *intrinsically refer* to the socio-cultural placement and the knowledgeability of the potential knower who proposes or adopts this ontology. The second aim of this article is to show the theoretical interrelations between these two uses of the term.

In the first section, I shall show the ways in which these two versions of reflexivity exist in an undifferentiated mode in different texts by different authors, in discussions of ethnomethodology and the sociology of scientific knowledge. The next step will be to discuss the importance of the notion of ontology in contemporary social theory and its conceptual import for the methodology of the human sciences. It is at this point that I should refer to the reasons why Michael Lynch, in an influential paper called 'Against Reflexivity as an Academic Virtue and Source of Privileged Knowledge' (2000), argued

that reflexivity has no genuinely positive and radical epistemological character, as is frequently assumed by some theorists in the sociology of scientific knowledge.

This analysis will lead the discussion to a more adequate definition of epistemic reflexivity as an auto-referential problematic of social ontology – a problematic that requires the formulation of an epistemic criterion of coherence for its resolution. In this sense, the academic virtue that Lynch (2000) thinks is missing from what he regards as a trivial term is found in the fulfillment of an epistemic criterion of ontological coherence, which generates a *virtuous* circularity between the presupposition of the self-reflective knowing subject – a subjectivity able to reflect on her or his own ontological presuppositions – and the social ontology on which the knowing subject *should be assumed to* reflect.

## The problem of reflexivity in the sociology of scientific knowledge: A historical overview

What follows in this section is a brief and selective overview of the introduction and further development of the term 'reflexivity' in certain influential circles of the sociology of knowledge. In the history of contemporary social theory, the term 'reflexivity' is frequently attributed to Harold Garfinkel's ethnomethodological program (1967). It points to the ordinary 'fact' of social life that social individuals' practical accounts are both constitutive of and dependent on local indexical expressions and commonsensical knowledge. According to this tradition, 'the notion of "reflexivity" of actions is the original ethnomethodological contribution and it relates to the intelligible character of human actions on the one hand, and to the "incarnate" or "embodied" character of interpretative practices on the other hand' (Czyzewski, 1994: 166). But while ethnomethodologists were trying to explicate Garfinkel's obscure idea of the 'uninteresting essential reflexivity' of accounts of practical actions (Garfinkel, 1967: 4), reflexivity became the new trend in sociological theory and in methodological studies of sociological research and, more specifically, in anthropological and feminist methodological discussions.

Interestingly, it was in the different branches of the sociology of science that reflexivity attained the character of a significant epistemological issue related to a social epistemology that is able to incorporate the sociologist's positioned interests, epistemic beliefs and values, cultural norms, expectations, etc., into sociological *explanations* and *understandings*. Resulting from this sociological predicament is the methodological import of the *problem of reflexivity*:

> . . . the term 'reflexivity' is intended to refer simply to that aspect of the sociology of science that is self-referential. Because the sociologist of science is a social scientist, he is in the peculiar position of having to define 'science' both as the object of his research and, at the same time, as the methods and procedures he employs in carrying out this research. (Gruenberg, 1978: 321–2)

Gruenberg (1978) is clear that reflexivity is a *problem* of all social sciences, for every statement referring to human action also *refers* to the social scientists themselves. But,

for Gruenberg, this 'turning back upon the sociologist' becomes more 'troublesome' when applied to the sociology of knowledge, which intends to offer a theory defining the social conditions generating particular epistemic beliefs; for since 'any such theory must itself be explicable in terms of specifiable social conditions, the question arises of how one is to evaluate the truth or adequacy of such a theory' (ibid.: 323).

For simplicity's sake, I will not focus on a distinction between the sociology of science and the sociology of scientific knowledge (see Collins, 1983). For the purposes of this analysis, by the term 'sociology of science' I will henceforth refer to all those branches of sociology that attempt to cast a relativist gaze on the social conditions of the construction of scientific knowledge-claims, such as the *Strong Programme in the Sociology of Knowledge*. In these lines, 'all knowledge, whether it be in the empirical sciences or even in mathematics, should be treated, through and through, as material for investigation' (Bloor, 1991: 3). For scientific beliefs are still beliefs which scientists hold and live with, and the sociologist should have as her or his object of study beliefs which are taken for granted 'or institutionalized, or invested with authority by groups of people' (ibid.: 5).

Bloor (1991) explains that this approach encompasses four values, four tenets which are also taken for granted in other disciplines. These are (1) causality: the sociology of scientific knowledge is concerned with the conditions generating certain states of knowledge; (2) impartiality: the sociology of scientific knowledge should be impartial 'with respect to truth and falsity, rationality or irrationality, success or failure', and 'both sides of these dichotomies will require explanation' (Bloor, 1991: 7); (3) symmetry: the same kind of causality should be attributed both to true and to false beliefs; (4) reflexivity: the modes of explanation of the sociology of scientific knowledge should be applied to itself; 'like the requirement of symmetry this is a response to the need to seek for general explanations' and 'it is an obvious requirement of principle because otherwise sociology would be a standing refutation of its own theories' (ibid.).

Seeing that they are implied by the aforementioned four tenets, epistemic relativism and the assumption of the social character of knowledge-claims are still fundamental precepts of this approach. For individual experience takes place only within a framework of shared assumptions, standards, purposes and meanings: 'society furnishes the mind of the individual with these things and also provides the conditions whereby they can be sustained and reinforced' (Bloor, 1991: 15). In this sense, empirical investigation of the local causes of either true or false beliefs should be perpetuated. And even the relativist himself or herself recognizes that his or her own evaluations concerning what he or she thinks of as true, false, rational or irrational are context-bound, condemned to locality, and cannot be reduced to 'rational reconstructions' or 'immanent laws' (Barnes and Bloor, 1982: 27).

Yet, even if both 'true' and 'false' beliefs are liable to sociological *explanation*, what Barnes and Bloor do not adequately explain is the sense in which a realist concept, i.e. causality, can be theoretically consonant with the symmetrical relativism they propose (Barnes and Bloor, 1982: 22–3). Indeed, the attribution of causes can have an ontological import which can vary from a robust structural realism to a more modest post-positivist social epistemology; and the identification of causes should imply a notion of natural or logical necessity and/or a notion of *credible* identification of causality. A quite similar

critical remark was initially made by Malcolm Ashmore and Steve Woolgar, who argued that the sociology of scientific knowledge should take a final step of showing the auto-/ self-referential consequences of the relativist gaze of the Strong Programmers themselves (Woolgar and Ashmore, 1988).

Woolgar and Ashmore have identified an unwanted realist element in the Strong Programmers' words, which should be eliminated for the sake of a more uncompromising relativism. And this is, in general terms, what characterizes their radical *reflexive program*. In these terms, the *problem of reflexivity* becomes a problem of relativism and its further application to its own explanatory and cognitional premises. But despite the apparent paradox of extending the scope of relativism in order not to be self-contradictory – for, after all, what is a contradiction in relativist terms? – one can hardly find a clear definition of reflexivity in Woolgar and Ashmore's accounts. This is because the textual multivocality and the representational instability they opt for frequently allow their sophisticated approach to 'the reflexive theme' a self-undermining though self-conscious obscurity about both the level of importance of reflexivity in the sociology of scientific knowledge and the theoretical pervasiveness of this ironic instability. Specifically, for Woolgar, reflexivity is the ethnographer of the text: it always uncovers scientistic assumptions implicit in social research. Yet, for Woolgar, our standardized 'reflexive device' of turning utterances back upon ourselves in a critical search for cohesion forgets that the text is 'just one element in a reader–text community' and that 'the juxtaposition of textual elements works systematically throughout a text rather than just at odd "reflexive moments"' (Woolgar, 1988: 32) – and it is in this sense that a concrete definition of reflexivity is missing from Woolgar's work.

Ashmore (1994: 158) agrees with Woolgar that the usefulness of reflexivity is that it can enable a *radical* critique of representation. But Ashmore takes it a step further, since here the *problem of reflexivity* turns out to be 'the preserver of relativism *for* relativism and not its destroyer' (Ashmore, 1989: 111). For, Ashmore aims at an approach which both respects and celebrates the *problems* emerging from auto-reference and thus from what he calls '*tu quoque*' – which signifies an ironic 'the same holds for you' for every effort to apply relativism to some part of our social analysis – since the lack of stability which the *tu quoque* arguments generate should not be regarded as undermining relativism, but as a demonstration of a generalized relativism. For this reason, in his chapter 'Beyond the Tu Quoque', Ashmore argues that the supposed self-destructiveness of the 'tu quoque' argument does not entail self-destruction (ibid.: 100). At this point, Ashmore aims at placing suspension at the core of theorizing while denying that theory should be abandoned.

All in all, Ashmore and Woolgar intend to underline the interconnections between the observer's representational activity and the constitution of the observed object, while simultaneously pointing to the necessity of reporting the epistemic insecurity that such a relationship of mutual constitution generates. The role of reflexivity here is to unsettle basic assumptions used in descriptions of reality. This unveiling role of reflexivity is endorsed by several branches of ethnomethodology. Pollner (1991), for example, aims at a revival of radical reflexivity which, as he claims, can only contribute to the enrichment of the sociological imagination:

> Radical reflexivity recursively encompasses every aspect of the discourse through which
> descriptions of reality are proffered by communities of knowers. Indeed, the very notions of
> 'reality', 'descriptions', and 'knower' become problematic instead of taken-for-granted
> ontological resources. (Pollner, 1991: 376)

Ontological assumptions which are taken for granted are here suspended, as are the
notions of 'knower' and 'epistemology'. As I shall show later, this idea of a radically
critical (and revealing) self-objectification has frequently led opponents of epistemic
skepticism to accuse the whole reflexive project of an unending and academically
unfruitful regress of meta-levels. For any effort to uncover the well-established ontolo-
gical and epistemological assumptions or foundational standpoints of a scientific prac-
tice may partially reproduce them or assume other foundational standpoints, which, for
the skeptic, constitute a new object for critical reflection and/or sociological
investigation.

Pollner (1993: 78) is so enthusiastic about this unveiling of hidden presuppositions
that he does not seem to worry about the possibility of an infinite regress of meta-levels.
Yet, this stance towards the threat of an infinite regress of meta-levels is not common. At
the end of the day, the skeptic epistemologist faces the terrifying question of 'Shall we
ever stop the unveiling?' No doubt, such a 'final meta-level' would be interpreted by
many relativists as the ultimate self-denial of epistemic relativism, since it would signify
that the ontological concepts and the epistemic beliefs related to this meta-level can
provide a credible or a foundational standpoint. But the scenario of the absence of such a
meta-level could lead to a theoretical instability which even Ashmore (1989) would be
unable to accept.

Where this discussion is concerned, we should note and keep in mind that the
problem of the auto-referential application of relativism is frequently conflated with
the unveiling processes of the unending self-reflective objectification of one's own
epistemic and ontological commitments. However, these are two analytically distinct
issues – and establishing this distinction is the first aim of this article. Here, Gruen-
berg's (1978) acknowledgment of an auto-referential problem has fused, in the theo-
retical discussions of the sociology of science, with Woolgar's idea of reflexivity as the
ethnographer of the text – and, interestingly, Ashmore and Woolgar make clear ref-
erence to Gruenberg's work as an exemplary one for their positions. Indeed, Ash-
more's and Pollner's works are clear examples of the conflation between epistemic
reflexivity and self-reflection.

Now, one could respond that Pollner (1991, 2012) distinguishes between endogenous/
mundane reflexivity, which corresponds to the minimal idea that actors self-reflectively
try to become knowledgeable about their everyday settings, and *radical referential
reflexivity*, which calls for an ethnomethodological examination of its own background
assumptions of reality.[2] This is a preliminary step to distinguishing between self-
reflection and epistemic reflexivity. However, what Pollner calls 'radical referential
reflexivity' conflates the self-reflective conduct of the sociologist with the self-
referential properties of social ontologies (or *grande* social theories), that is, it obscures
the distinction that I argue for in this article. For, the endorsement of this 'radical
referential reflexivity' works here both as a call for a self-reflective unveiling of hidden

ontological assumptions and as an auto-referential application of these assumptions to ethnomethodological practice itself.

After distinguishing between the auto-referential properties and problems of abstract philosophical schemes or general sociological theories, on the one hand, and *self*-reflection, as the agential capacity of the epistemic subject to critically uncover ontological and scientific assumptions, on the other, we can then proceed to the analysis of the theoretical interrelations of these two distinct moments of social constructionists' approaches to theory-formation. But, for the moment, I shall briefly discuss the idea of ontology and what it means to claim that the social scientist should reflect on his or her own ontological commitments, which is crucial for understanding what Pollner means when he defines 'radical referential reflexivity' as a process of uncovering ontological commitments. Then, I will present Lynch's important critique of Woolgar and Ashmore's ideas on reflexivity, in order to proceed to a redefinition of reflexivity as an epistemic criterion of ontological coherence.

## On 'uncovering ontological commitments': The role of ontology in the human sciences

What is this thing called 'ontology'? Etymologically, 'ontology' means theory [*logos*] of being [*On*]. Hacking (2002: 1) attributes the emergence of the field of metaphysics to Christian Wolff (in the 18th century), and places the roots of the revival of academic interest in ontology and metaphysics in the works of Martin Heidegger and Willard Van Orman Quine. Though Heidegger's idea of overcoming metaphysics and its binary oppositions has been influential in continental philosophy,[3] Heidegger is not a dominant figure in contemporary discussions on metaphysics and justification. Instead, it was the work of Quine that reintroduced and redefined ontology in relation to the history and philosophy of science and mathematics – and it did so during a positivist era when the *elimination of metaphysics* (Ayer, 1971) was a dominant trend (see Young, 1991).

After Quine's reintroduction of the concept of ontology into analytic philosophy, the positivist rejection as metaphysical of those theories which introduced unobserved, holistic, abstract or unobservable entities gave way to the *metaphysics of science*, where it is recognized that the assumption of such entities serves an important purpose in contemporary sciences. Following Quine (1948, 1953, 1969), we can claim that ontological presuppositions are centrally placed in our web of beliefs (1953: 44), and, in my view, this means that ontological schemes are cognitionally prior to more empirical investigations. As Latsis (2007) remarks, Quine argues for the need for scientific reflection on assumed ontological commitments:

> While he did not associate ontological speculation with an ability to intuit the 'real' structure of the universe, Quine was determined to show that philosophers and scientists alike were committed (through their conceptual schemes) to the existence of the entities they discussed: they could not shy away from ontology. In this sense, different theories were describing different worlds, and those who posited apparently fictitious theoretical entities in order to achieve their theoretical goals would have to admit that

they held those entities to *exist* and hence presumably to empirically investigate these
existence claims. (Latsis, 2007: 129)

Quine has rightly been criticized for providing a formalistic notion of ontology (see
Alston, 1958); for Quine's ontological criterion suggests that an ontology should contain
only those entities that can be introduced as values of variables of quantification.

In contemporary metaphysics, many ontological realists argue for the possibility of an
objective ontology for the natural sciences, while anti-realists argue for the impossibility
of objectivity in theorizing abstract and unobserved entities. In his 'Indeterminism and
Antirealism', Donald Davidson draws on Quine's idea of the indeterminacy of connect-
ing concepts with objects (1997: 117) in order to discuss the possibility and the limits of
anti-realism. This discussion has contributed to the detachment of the notions of objec-
tivity and determinacy of truth-value from the idea of ontological commitments (Chal-
mers, 2009; Young, 1992). Another remark that can be made in the context of this
discussion is that there is a plurality of (complementary, contradictory, or even incom-
mensurable) ontological schemes, even within the same scientific field; and we can also
claim that the idea that an ontology has a referent does not necessarily mean that this
referent exists, or that it exists in the way we conceive of it.[4]

Similarly, in the philosophy of the human sciences,[5] many critical realists have
argued for objective entities, such as objective social structures (Archer, 1995). One can
note that several socio-theoretical traditions continue to deny the relevance, importance
and possibility of ontological reasoning. Therefore, one can still find this discussion – a
discussion on the proposal of a criterion of ontological coherence – futile. But the notion
of ontology is central to various schools of thought that are dominant in the philosophy of
the human sciences. And, interestingly, one can find a common thread among these
different traditions: every social scientific research program necessarily presupposes an
ontology – a theory that provides classes, relations, attributes and concepts denoting
entities and objects *assumed to exist* in a specific domain.

Margaret Archer (1995, 1998), a prominent critical realist, also argues for a notion of
ontology as the conceptual framework underlying scientific programs. For Archer, 'since
theories are propositions containing concepts and since all concepts have referents (pick
out features held to belong to social reality), then there can be no social theory without an
accompanying social ontology (implicit or explicit)' (Archer, 1995: 12). Indeed, accord-
ing to Archer, ontologies, as conceptual frameworks, regulate the related explanatory
methodology, since the ultimate constituents of social reality, which these ontologies
denote, determine what kind of concepts are useful, relevant or revealing in more
empirical examinations. Archer is clear that ontologies are not immune to empirical
examination, as she believes that the relation between ontology and methodology has a
reciprocal character (ibid.: 23; 1998: 73).

Now, although the idea of the priority of ontology over epistemology and methodol-
ogy partly originated in realist social philosophy (Bhaskar, 1979, 2009), it has also been
adopted by social constructionism[6] (Searle, 2008) and social anti-realism (Bouzanis,
2016); it can be encapsulated in the post-positivist idea of the 'metaphysics of science'.
In this field, Agassi (1964) has argued that metaphysical doctrines are views of the world
that constitute coordinating frameworks which regulate the field of scientific research by

attaching significance to certain (and not other) theories, experiments, problems, etc (see Kim, 2017: 110). More specifically, 'where the social sciences are concerned, social ontology is prior to methodology and theory. It is prior in the sense that unless you have a clear conception of the nature of the phenomena you are investigating, you are unlikely to develop the right methodology and the right theoretical apparatus for conducting the investigation' (Searle, 2008: 443).

Socio-theoretical anti-realism, inherent in many constructionist and interpretivist approaches, can retain an anti-objectivist notion of ontology by highlighting the discursive elaboration of the metaphysical world-imageries shared and discursively (re-)produced by different epistemic communities and agencies. Conflicting scientific world-imageries are intertwined with conflicting philosophical world-imageries, and both constitute the ideational background which is the *object* of reflection in what Chalmers calls 'ontological discourse' (2009: 91). Following these lines, ontologies can be conceived of as conceptual frameworks that express certain metaphysical imaginary schemata and which provide empirical research with a categorical scheme introducing abstract, holistic, theoretical and unobservable entities (see Bouzanis, 2016).

In this article, I argue that, in the case of the social domain, any effort to reflect on a social ontology has an (explicit or implicit) theoretical, auto-referential import about the knowledgeability of the epistemic agency that participates in the ontological discourse; and, as I shall explain, this necessitates further reflection on how to avoid paradoxical claims generated by socio-theoretical auto-reference.

## Michael Lynch's critique of radical reflexivity

Michael Lynch criticizes Woolgar, Ashmore and Pollner by claiming that 'reflexivity is not intrinsically radical' (Lynch, 2000: 36). By the term 'radical reflexivity', Lynch refers to a critical treatment of *representation*. Lynch attributes 'radical reflexivity' to Woolgar and Ashmore, who have tried to deconstruct and undermine any form of objective or privileged analysis by 'exposing uncertainties and "messy" contingencies' (ibid.).

Lynch's critique (2000) can be summed up under three main points: (1) different methodological programs favor different modes of reflexivity, whose radicality and virtuousness are thus dependent on the objectives and dynamics of the relevant theoretical investments; therefore, (2) reflexivity is not intrinsically and necessarily radical, useful, virtuous, revealing, destructive or liberating: its success depends on the circumstances of its application and the theoretical perspective adopted; and in this sense, (3) to make general philosophical critical remarks about the relation between representation and the world, as 'radical reflexivists' do, not only is irrelevant to substantial research, but it can also impose an unnecessary general philosophical burden on the more substantial local scientific work.

As far as the first point is concerned, Lynch claims that 'the meaning and epistemic virtues ascribed to reflexivity are relative to particular conceptions of human nature and social reality' (Lynch, 2000: 26). This quotation could be interpreted by many authors as implying that 'the meaning and epistemic virtues ascribed to reflexivity are relative to particular social ontologies'.

It is in this context that Lynch's (2000) critique of Pollner's formulation of 'radical reflexivity' makes the theoretical circumstances of the obscuring of the distinction (between self-reflection and epistemic reflexivity) I propose in this article even worse: a condensed version of 'radical referential reflexivity' that conflates the self-reflective revealing of hidden ontological assumptions with ontological auto-reference is now criticized by an author who denies the theoretical importance and exegetical value of the concept of ontology (Lynch, 2013) and who intends to maintain a minimal conception of ordinary self-reflection.

Accordingly, for Lynch (2000), general philosophical and epistemological problems like the theory-ladenness of observation, the under-determination of theory choice by evidence, or the omnipresent problem of how descriptions correspond to their objects, are classic and important, but bear no special, either positive or negative, epistemic implications for specific local scientific engagement. For this reason, scientists should ignore this general and abstract philosophical problematic and focus on the specific issues arising from their particular research programs. For reflexivity cannot offer anything more than what every effort to attack objective truths offers, so there is no particular benefit to being *radically reflexive* unless something worthwhile emerges from it (Lynch, 2000: 42). Consequently, it is pointless to require that, every time a scientist makes a statement, he or she should list all the presuppositions and contingent conditions which influenced his or her research, thus pre-emptively replying to every possible imaginary critique regarding the uncertainty connected with these conditions. After all, 'a project that deconstructs objective claims should be no more or less problematic, in principle, than the claims it seeks to deconstruct' (ibid.).

Hence, for Lynch, the limit to the number of meta-theoretical 'confessions' necessary in order for one to be reflexive is social, and there is no single way of being reflexive.

Within this framework, Lynch suggests 'an alternative, ethnomethodological conception of reflexivity that does not privilege a theoretical or methodological standpoint by contrasting it to an unreflexive counterpart' (Lynch, 2000: 26), and which underlines the ordinary and uninteresting character of the constitutive reflexivity of accounts, that is, of the uninterested reflexive uses of ordinary language and common-sense knowledge.[7] This constitutes a minimalistic attitude towards self-reflection, the ordinariness of which implies that its epistemic virtues are not certain and determinate. It is in this sense that Pollner complains that 'from Lynch's perspective, the analyst is deprived of any analytic vantage point. It is the move from referential to endogenous reflexivity' (Pollner, 2012: 17).

Yet, in this article, I would like to argue against this minimal ethnomethodological form of self-reflection and thus claim that there are various forms and degrees of self-reflection, which are always relative to each specific society, group, class, etc. Indeed, Archer (2007: 49) is right that it is unintelligible to conceive of a society with such a level of socio-cultural cohesion that agents do not need to reflect on the content of action. And, indeed, this is somehow an ordinary socio-cultural phenomenon. However, Lynch (2000) does not leave theoretical space for such a variety of levels and degrees of self-reflection. Thus, what Lynch is *implicitly* against is the *presupposition of the self-reflective knowing subject* (reflecting on her or his own ontological presuppositions),

which constitutes a sub-class of the general presupposition of the general, omnipresent and ordinary notion of self-reflective subjectivity.

Again, both ordinary self-reflection and its radical maximalistic version of the knowing subject should be distinguished from epistemic reflexivity, which is an auto-referential property of social ontological schemes. And these analytically distinct theoretical moments are confused under the label of 'radical referential reflexivity', in the hybrid formula 'radical + referential'.

Now, as I have already mentioned, Lynch (2000) claims that different 'conceptions of human nature and social reality' favor different versions of reflexivity. I would rather claim that social ontologies (explicitly or implicitly) entail certain modes of ordinary self-reflection; and, in this article, I argue that social ontologies should account for the possibility of the self-reflective knowing subject; for otherwise social ontologies face the problematic auto-referential question of their own epistemic status.

## Social ontology, self-reflection and the epistemic criterion of reflexivity

As I have claimed, epistemic reflexivity denotes the auto-referential properties of *grande* theories – the predicates of which entail consequences for theory production itself – and, specifically in the case of the social sciences, of social ontologies. More precisely, social ontologies are *grande* conceptual frameworks which introduce abstract entities and holistic accounts of what is constitutive of the social domain as well as of the existential conditions of the relations between the subject and the object of scientific research. And I have also claimed that reflecting on social ontologies is crucial to every social research program.

Not surprisingly, Lynch seems to be negative towards the idea that certain methodological, epistemological and more substantive theoretical accounts are based on general ontological schemes. As regards the need for a general theory of social problems studies, Bogen and Lynch (1993) argue that such a theory would only impose definitional limits on researchers. For Lynch, science and technology studies (STS) examine how words like 'fact', 'truth', 'reality' and 'knowledge' are produced locally, in specific historical and pragmatic circumstances (Lynch, 2013: 450). In this sense, 'epistemology' and 'ontology' become themselves topics that call for a local and historical examination of why and how 'knowledges' of this kind are culturally and historically produced and sustained by the various epistemological communities. And, therefore, 'understood as an STS research program, epistemology – and, by extension, ontology, ethics, or aesthetics – does not make up a distinct field of metaphysics, but instead, it reverts to diverse social, historical, political, and cultural conditions under which "knowledges" are established, objectified, moralized, communicated, or dismantled' (ibid.: 451). And according to Lynch, the pluralization and the hybridization of ontologies undermine the sociological discussion of world-views and of theories of everything (TOEs; ibid.: 453).

In order to argue for the avoidance of general, inapplicable and limiting principles or theories, many thinkers[8] have proposed the idea of scientific theorizing as having *limited* conceptual relevance to, *partial* practical adequacy in or *restricted* epistemic validity about *distinct local fields or domains*. But this idea presupposes a *generalized* and

holistic ontological image of localities and/or regions of reality that exhibit a degree of limited dependence on each other. The post-Wittgensteinian analysis[9] which is assumed by Lynch *is* and works as a theory of everything, that is, as an all-inclusive and homogenizing social ontology of a holistic descriptive image of discrete forms of life and/or language communities, utilizing ontological concepts like 'rules', 'language', 'culture', 'communities', etc.

Lynch (2013) does not *reflect* on the ontological dimension of the world-view he himself utilizes in order (paradoxically) to proceed to a denunciation of philosophical reflection (by the knowing subject, let me add) on ontology and metaphysics. His denial of the relevance of ontology to the sociology of scientific knowledge (2013) goes hand in hand with his denunciation (2000) of the (aforementioned) condensed form of '"radical" + "referential" reflexivity'. Conversely, the resurrection of the idea of the ontology goes hand in hand with the resurrection of the idea of the self-reflective knowing subject.

Therefore, what is meticulously concealed by this analysis is that: (1) the post-positivist tradition in the philosophy of science has frequently revealed the importance of holistic, abstract or unobservable entities; (2) these 'referents' should not necessarily attain an objective status, as many realists imply; (3) (fallible) *reflection* on these entities is an *ordinary* part of contemporary science.

Following these lines, I agree with Lynch (2013) that different epistemic communities share similar, complementary, overlapping and/or partially contradictory, or even incommensurable descriptions of the world; but I would add, contra Lynch, that since social ontologies make existential claims about the conditions of ordinary human knowledgeability and action, any theoretical assumption about the agential capacities of social individuals also has auto-referential implications for the knowing subject. Epistemic reflexivity, therefore, expresses the problem that Gruenberg (1978) tried to spell out for the social sciences. In the next section, I shall show how this problematic should lead us to the conceptualization of reflexivity as an epistemic criterion of *virtuous* theorizing. But in order to do so, I should first be clear about how epistemic reflexivity, as the auto-referential property of social ontologies, is theoretically connected with the idea of the self-reflective knowing subject.

Every ontology that a social scientist adopts has an auto-referential import for the epistemic status of the impersonal knowing subject. More simply put, general ideas about the ordinary knowledgeability of social agents impinge back upon the one who offers these ideas – for that person is a socio-cultural agent as well. This means that, in the case of the philosophy of the human sciences, there is a need for metaphysical reflection which moves further than reflecting on an ontological scheme – that is, a need for reflection on the fact that the sociologist, as a knowing subject, is existentially related to her or his partial or greater object: (1) as a member of a specific epistemic community, she or he meaningfully draws on a shared background of world-imageries and epistemic norms, and is positioned in a certain institutional and/or structural 'slot' which is related to certain roles and institutional resources; and (2) as a participant in the wider social domain, she or he cannot 'escape' from her or his own ontological claims about agential knowledgeability, and/or about the discursive formation and modification of world-imageries and norms, and/or about structural conditioning, etc.

This conclusion can be useful even if one is negative towards the term 'ontology'. For one can still argue that *grande* theories or philosophies about the social world cannot but implicitly offer an account of the socio-cultural position of the philosopher or the scientist. One implication – and a useful example – of this problematic is that relativist theories, which deny or suspend the possibility of (fallible) reflection, face this auto-referential problem. As Lawson nicely puts it:

> The denial of the possibility of knowledge may seem a wild and anarchistic claim, but it is at first sight intelligible and *logically* unremarkable. But matters cannot be left there. This denial involves a reflexive problem, which appears trivial but which cannot be eradicated with the ease that one might expect: if it is not possible to provide knowledge, then how are we to regard the text of the philosopher that asserts this very point? Since it is evidently paradoxical to claim to know that knowledge is not possible, philosophers who have wished to make this type of claim have usually engaged in the more wide-ranging attempt to alter the nature of their text in order to avoid a self-contradictory stance. (H. Lawson, 1985: 14)

Following the same line of thought, deterministic social ontologies, which deprive social individuals of their creative agency, are similarly problematic. For 'just as the sceptic or relativist seems, in asserting his thesis, to be making the sort of knowledge claim his thesis excludes, so also the determinist is said to be doing something in asserting determinism which this very thesis excludes' (Boyle, 1987: 193). And in attacking sociological relativism and social determinism, I intend to propose an *epistemic criterion* in response to this auto-referential problem of epistemic reflexivity. This is the point where the philosophical tradition of reflexivity that is related to the ideas of auto-reference and paradox meets the sociological discussion about the supposed epistemic virtuousness of reflexive sociology.[10]

What this epistemic criterion aims at is a theoretical restoration of the presupposition of the knowing subject as the *impersonal (fallible) knower* of his or her ideas about the social world. This simply means that the potential knower is not passively molded by social conditions or cultural normativity – in other words, that she or he who proposes or adopts a social ontology cannot reasonably consider herself or himself to be a social 'puppet' in a pre-written show or a cultural dope. Of course, the one who proposes or adopts an ontology is a specific author with a specific name; but ontologies *refer to* impersonal agential properties. This means that even if one is *personally* accused of providing an incoherent ontology, this incoherence expresses the asymmetric ontological description of the impersonal scientist as incapable of reflection on ontological assumptions. And the asymmetry or paradox comes from the idea that any social ontology, no matter who its author is, is a product of reflection.

It is in this sense that I intend to argue for reflexivity as an epistemic criterion for the coherence of social ontologies. According to this criterion, every ontological scheme should account for the possibility of the knowing subject fallibly reflecting, within the socio-cultural realm and history, on the content of a social ontology. And this is simultaneously a call for turning the concepts of every social ontology back on the impersonal knowing subject, who is supposed to reflect on this specific ontology, and assess whether the presupposition of the self-reflective knowing subject becomes possible through the

mutual reproduction of the semantical content of these concepts. If not, coherence should be attempted through additional assumptions or through the abandonment of the whole framework. For it is paradoxical to claim to reflect on a world-imagery while explicitly or implicitly denying the possibility of such a reflection.

As Castoriadis explains, there are two solutions to this predicament: either we have to assume that the philosopher, like a charismatic prophet, has been endowed with the capacity to access truth – or meta-/post-truth – and thus can 'make pronouncements valid for everybody, but about which no further enquiry is possible' (Castoriadis, 1991: 29–30); or we have to resort to the possibility of a self-reflective subjectivity.

However, the mere invocation of a self-reflective subjectivity is the necessary but not the sufficient condition for the fulfillment of the epistemic criterion of reflexivity. It is up to a specific social ontology built on specific anti-reductionist and anti-relativist premises to fulfill this criterion. Indeed, the term 'self-reflection' signifies a sociologized mode of self-consciousness which takes place within a certain culturally shared, categorical and ideational background. And it can attain the form of various thought processes (i.e. introspection, monologue and self-dialogue, etc.), each of them potentially resulting in different epistemic modes of analysis (deconstruction, constructive theory-production, immanent critique, deduction, abduction, retroduction, etc.). Whether the presupposition of self-reflective subjectivity can fulfill the epistemic criterion of reflexivity I am proposing depends on the way in which the specific social ontology, of which this presupposition is a premise, combines self-reflection, social action and social forms (social structures, institutions, organizations, etc.). In any case, for the epistemic criterion of reflexivity to be fulfilled, what Lynch (2000) called the *ordinary* reflexivity of accounts is not enough. We need a more rigorous notion of the self-reflective knowing subject.

However, this remark should not lead us to the scientistic idea that we should ascribe the capacity for self-reflection only to sociologists, and deny it to lay actors, as Bourdieu does (see 2003, 2004). It is not within the aims of this article to offer another critique of Bourdieu by discussing in detail the ways in which social determinism – that the relation between his ideas of the habitus and the social structures generate (Jenkins, 1992; King, 2000) – goes hand in hand with the valid remark that there is a theoretical deficit of self-reflective lay subjectivity in the premises of his thought (Peters, 2014: 142). For the purposes of this article, I should be clear that Bourdieu was perhaps the first social theorist who proposed a social ontology and then *turned its premises* into the objectification of the views of social scientists. This was, indeed, a huge step towards the pursuit of a reflexive social ontology. Bourdieu calls for a collective use of his ontology of structures and habitus, which should therefore be the tools for the objectivation of the subject of objectivation, as well as of the material conditions of the *production* of this subject and the related scientific habitus. He explains that the space of the positions in the scientific field defines (in terms of probabilities), through the dispositions of the habitus, the space of position-takings – that is, the possible and permitted sets of views, strategies and interactions (Bourdieu, 2004: 58). Yet, as Maton comments, 'Bourdieu's theory begs the (reflexive) question of the extent to which his analyses of the partial and positioned nature of knowledge produced by actors within intellectual fields are more than merely the reflection of his own partial and positioned viewpoint' (Maton, 2003: 57). It seems

that Bourdieu's 'reflexive realism' (Bourdieu, 2000: 111) leaves no theoretical space for the epistemic subject, with the result that his own reflections on basic ontological concepts, such as structure and habitus, seem to be entrapped in a paradox.

This discussion implies that sociological theory cannot attribute self-reflection only to one thinker or privileged caste of social actors due to their privileged positioning in a specific field. Of course, not all agents are socialized and/or educated in a way that enables them to become knowing subjects, that is, to *radically* reflect on ontological and epistemic premises. But if not every scientist is de facto a knowing subject, we cannot deny lay or professional actors the capacity for certain modes of self-reflection. All in all, keeping in mind that 'in almost all social settings people, scientists obviously included, do not continuously examine their own premises' (Smith, 2005: 10), we can claim that radical self-reflection, on the part of the knowing subject, on ontological and epistemic presuppositions is one of the many modes of ordinary agential self-reflection, though a crucial one in our discussion of the fulfillment of the epistemic criterion of reflexivity. For, again, and as I shall show in the next section, the presupposition of the self-reflective knowing subject is the necessary key to *virtuous* ontological reasoning.

Within this frame of thought, to claim that the knowing subject is another agent in the social field, culturally sharing ideational and categorical backgrounds with professional and lay actors, entails an existential proximity among the different agents – academic, professional and lay ones. Gouldner (1970) is right that this kind of existential proximity implies the demise of scientistic presuppositions that a priori furnish the sociologist with a superior epistemic status without taking into account that social scientists' ideas cannot be culturally sterilized and socially isolated. For, after all, sociologists

> . . . inevitably change others and are changed by them, in planned and unanticipated ways, during their efforts to know them; and that knowing and changing are distinguishable but not separable processes. The aim of the Reflexive Sociologist, then, is not to remove his influence on others but to know it, which requires that he must become aware of himself as both knower and as agent of change. (Gouldner, 1970: 497)

All in all, the epistemic criterion of reflexivity proposed in this article constitutes a call for ontological coherence with respect to the idea that the social theorist is not an acultural transcendental ego but constitutes an epistemic agent, placed in a specific scientific or philosophical community.

Consequently, and conversely, we should not adopt the paradoxical reductionist imagery of the epistemic *participant*, *the epistemic agent*, with pre-*determined* reflective capacities. For example, with respect to neuro science and its deterministic gaze, according to which it is not only the capacities of the scientists themselves, but also scientific reflection that can be reduced to neurons and their synapses, Habermas (2007) finds himself in the predicament of the impossibility of a theoretical combination of this deterministic mode of scientific reflection, on the one hand, and the intersubjectively shared presupposition of the self-reflecting participant, on the other. For Habermas:

> The epistemic subject does not simply encounter the world but also knows itself to be one entity among others in the world. That is why knowledge of the world bites back at the

knowing agent. The cumulative expansion of our knowledge of the world cannot leave untouched the position that *epistemic* subjects have to attribute to themselves as subjects who also *act* in the world. (Habermas, 2007: 23)

Similarly, as Cohen-Cole (2005) has shown, the tension in the history of psychological studies between the philosophical assumption (and scientific self-image) of a creative and speculative scientist and the deterministic gaze of behaviorists (stimulus–response theories) has played a crucial role in the emergence of cognitive sciences. Therefore, *knowledge about the world* should be consistent with *the presupposition of the self-reflective knowing subject* who is also a *participant*, an epistemic agent, rather than a passive knower.

Here, existential proximity can mean agential participation in the discursive modification of culturally shared world-imageries; and epistemic agency can further imply that reflection on scientific categorization and classification can generate what Hacking calls 'looping effects', in the sense that 'to create new ways of classifying people is also to change how we can think of ourselves, to change our sense of self-worth, even how we remember our own past' (Hacking, 1995: 369), and that, therefore, 'new sorting and theorizing induces changes in self-conception and in behaviour of the people classified' (ibid.: 370).

Hacking (1995) adopts a modest version of dialectical realism with constructionist echoes, whereas I adopt an anti-realist standpoint. Yet, I think that the epistemic criterion of reflexivity can be of use to all those authors who share an interest in ontological investigations. And, again, this analysis can be useful even if one is negative towards the idea of ontology and/or the idea of there being metaphysical world-imageries that are shared by the different members of a scientific or philosophical community; for every *grande* theory about society necessarily offers an account of the position of the scientist himself or herself – even if it is an implicit one.

## For virtuous circularities instead of infinite regresses

Some of the authors I have discussed up to this point (Ashmore, Woolgar and Pollner) have conflated self-reflection with epistemic reflexivity as an auto-referential property of social ontologies – a conflation which results in an infinite regress of levels of self-objectification, since the hybrid form of 'radical + referential' objectification they endorse results in a desperate and endless, skeptical pursuit of deconstructing each potential premise of justification, the possibility of which is a priori rejected by relativists. A similar threat of an infinite regress of meta-levels is present in the epistemological discussions of methodological credibility. However, the problem with every abstract effort to account for the credibility of methods of inference of knowledge-claims is that epistemological investigations of this kind are frequently detached from their theoretical relation to social ontology. Although the invocation of ontology does not *necessarily* resolve *in principle* the possibility of an infinite regress of meta-foundational levels, it can frequently work as a regression-stopper – since the notion of ontology implies that there is no other meta-*meta*-theory for the premising of epistemic beliefs.

Where metaphysical world-imageries are concerned, meta-theory has limits which are not practical but categorical: we will use the same ontological concepts at every meta-level. Note that, here, 'premising' does not mean 'founding', and that, in the following analysis, epistemic circularity is the result of an anti-foundational stance towards justification of beliefs.

Most thinkers in the literature of epistemic circularity in the philosophy of science primarily focus on the methodological question of methodological reliability, and, therefore, in the following analysis, I shall seek for useful similarities instead of definitive conclusions. Interestingly – and conveniently for our purposes – William Alston, who is the father of the term 'epistemic circularity' (2005), starts his analysis with the problem of the infinite regress. Alston (2005) explains that, if challenged, claims of knowledge or well-grounded epistemic beliefs can be established by reference to other assumptions (beliefs, claims of knowledge), which, in their turn, can be established by reference to other assumptions, and so on ad infinitum. Here, knowledge-claims are inferred through methods whose credibility resides in certain beliefs whose epistemic status, in turn, may be premised on or inferred through another highly valued method, and so on. This is similar to the regress generated by the infinite stages of the self-reflective critical examination – as asserted by the deconstructionists we examined above.

Opponents of this kind of skepticism are looking for a 'final definitive foundation' so as to put an end to this infinite regression. Alston claims that this seemingly 'inevitable' result presupposes the idea that as we take every new step up in these infinite stages of regression, we do not make assumptions about beliefs which we have already adopted earlier in this regression: 'But if one or more previously established beliefs pop up at a later stage, we have a different story. Now the trouble is with circularity rather than with the inability to halt a regress' (Alston, 2005: 195).

For, as Alston (2005: 210) says, the number of our sources of beliefs is quite limited, so circularity rather than regress should be the case. This entails that (self-)reflective efforts for critical methodological enquiry may follow circular paths rather than linear ones that extend ad infinitum. The result of this circularity is that the establishment of the truth of a proposition is premised on the fact that it is true! And, as Alston explains, although in this last case our question does not remain eternally unanswered, as happens in the case of the regress, our position still has not gotten any more comfortable. Here, the knowing subject's trust in the method of inference is crucial as to whether circularity should be characterized as virtuous or vicious. In the doubter's case, epistemic circularity is malignant, while, in the case of the non-doubter, or the believer, epistemic circularity is benign (Bergman, 2004: 719). For the doubter will be skeptical about the reliability of the inference at each stage, while the non-doubter (or the believer) does not question the belief that the method of inference is reliable – even if this belief is inferred by the same method at an upper level – since, at each level, she or he trusts this method to be a source of reliable beliefs.

Again, though it is interesting – for the purposes of the present analysis – that Alston thinks that it is circularity, and not linear regression, that is the result of reflecting on the reliability of methods of inference, this is an epistemological discussion which is crucially different from an ontological investigation, and thus one could claim that it does not cast light on the mode of circularity between one's *reflecting* on ontological schemes

and the ontological premising of the presupposition of the self-reflective knowing subject. For, virtuousness here implies a coherent ontology which does not deny the idea of the self-reflecting knowing subject, that is, the idea of the epistemic agent who asks and *reflects* on ontological *premises*. Therefore, as far as ontological conceptualization is concerned, the problem of circularity does not appear due to the limited number of methods of inference; it is rather an issue intrinsic to those ontologies that face auto-referential problems, because the existential conditions they describe, explicitly or implicitly, include the historical conditions of their own formulation and, thus, impinge upon the epistemic status of the impersonal knowing subject who (fallibly) reflects on these conditions.

Therefore, whether an ontology is characterized by a virtuous or a vicious circularity is a matter of whether the epistemic criterion of reflexivity I propose in this article is fulfilled. The fulfillment of this criterion generates a virtuous circular path in which self-reflection is both presupposed by the assumed reflection on the proposed ontology and *affirmed* in terms of the possibility of the presupposition of the self-reflective knowing subject, the *participant* epistemic agent.

## Conclusion

We are, and will always be, in need of ontological concepts, such as language, structure, rules, roles, agency, institutions, systems, etc. And, admittedly, many realist, interpretivist, constructionist, post-structuralist and anti-realist ontologies have highlighted the need to resurrect the notion of the epistemic agent; and, in this sense, much work on the construction of a minimum of common ground can be done within the limits of the principle of ontological coherence. Ashmore, Woolgar and Pollner confound agential self-reflection with the auto-referential properties of social ontologies, with the result that they fail to acknowledge that it is only the presupposition of the self-reflective knowing subject that allows one to (claim to) *reflect on* an ontological conceptual scheme, as well as to subsequently identify the auto-referential properties of the ontological schemes that verbalize metaphysical world-imageries.

Conversely, stemming from the non-fulfillment of the epistemic criterion I propose, and mirrored in vicious circularities, ontological incoherence entails a *paradoxical* asymmetry in that it signifies an ontology which denies philosophers' (self-)reflection. And the viciousness of the circularity, in this case, resides in the paradoxical claim that the theorist assumes to *know* (at each potential meta-level of conceptual and metaphysical speculation) the basic existential conditions of a domain (language games, for example) or of some part of it not because these conditions allow such knowledgeability, but because the theorist is the paradoxical *knower* of these conditions, standing on a mysterious Archimedean point. And he or she cannot *coherently* argue why he or she is the only one able to do so. Lynch (2013) rightly rejects the possibility of this godlike Archimedean point of view. But this legitimate rejection should not lead us to give self-reflection a minimal role and to oppose the idea that contemporary post-positivist philosophy of science has endorsed metaphysical and cosmological speculation; nor should it lead us to deny the need for an epistemic criterion for the coherence of social ontologies.

## Funding

## Notes

1. Since the word 'self' is directly related to the social individual, from now on 'theoretical self-reference' will be referred to as 'auto-reference'. This conceptual modification aims at semantic clarity.
2. Tim May (1998, 1999, 2011) also distinguishes between endogenous and referential reflexivity. According to May, endogenous reflexivity refers to actors' understandings which are born through the actions of the members of a given community in terms of their contribution to their social and cultural contexts, while referential reflexivity refers to the knowledge which is obtained through the combination of the lay understanding of social life and the researcher's practical knowledge that emerges from the peculiar position of the researcher as a part of the (social) world examined.
3. See, for example, Rae (2014).
4. See also Latsis (2007) and T. Lawson (2015).
5. For a realist understanding of this debate, see Bunge (1993).
6. For a constructionist discussion of ontology, see Haslanger (1995).
7. Note that, in an introductory joint paper, Lynch and Woolgar distinguish between the ethno-methodological version of reflexivity, that is, 'the inseparability of a "theory" of representation from the heterogeneous social contexts in which representations are composed and used' (Lynch and Woolgar, 1988: 110), and two other versions: (1) the 'self-referential' one and (2) the 'reflective awareness of representational practice'. In this article, I intend to show the implications of this distinction, which is undeveloped in their formulations of reflexivity.
8. Indeed, pragmatists have many reasons to try to 'rid social sciences of ontology altogether – of all philosophized metaphysics of how the social world is independently of how anyone finds it appropriate to describe it' (Kivinen and Piiroinen, 2007: 99).
9. However, even in this tradition, Peter Winch vindicates the autonomous mode of metaphysics and philosophical reflection (Winch, 1958: 5).
10. For a helpful discussion of the main tendencies in both philosophical reflexivity and the reflexivity in the human sciences, see Smith (2005).

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