**Wittgenstein, Locality and Rules**

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**Abstract.** This paper attempts to give some substance to local holism, a picture that seems to fit Wittgenstein’s analysis of the working of language. Any form of holism has to solve the well-known paradox of semantic holism, as discussed in philosophy of language: if meaning is holistic there is no possibility of sharing meaning. In the paper I show different answers to this paradox, from atomism to different forms of molecularism and holism. In this quick overview, I try to check to what extent the different answers to the paradox are coherent with the main ideas of later/the second// Wittgenstein. Wittgenstein seems to be far from the global holistic thinker he is often considered to be; his ideas are more akin to a form of local holism. However, for local holism to work, even in Wittgenstein's case we need some general restrictions given by rules to navigate across contexts.

1. **What Quine and Davidson took from Wittgenstein**

   and the paradox of holism.

The work of Wittgenstein is apparently characterized by a strong attitude towards a holistic view of language. Even in *Tractatus logico-philosophicus* - considered a program for logical atomism - we find reference to Frege's context principle: names have meaning only in the context of a sentence (TLP 3.3). Wittgenstein’s subsequent work seems to be a progressive generalization of the context principle. The Fregean principle is quoted as such at the beginning of *Philosophical Investigation* (§49) in order to show that words do not have denotation in isolation, but only when used inside a language game, a social environment of speech and action. Naming is "not a move in the language-game--any more than putting a piece in its place on the board is a move in chess." If the sentence is the basic move in a language game, like a move in the game of chess, a language (game) itself is taken to be the basic unit in linguistic activity. Wittgenstein also gives a general statement, which generalizes the Fregean context principle:

“Understanding a sentence means understanding a language” [Wittgenstein 1958, p.5]
“To understand a sentence means to understand a language. To understand a language means to be master of a technique” [Wittgenstein 1953, § 199]

Many authors interpret the suggestion quoted above as an expression of a radical form of holism. Quine refers to it in Word and Object (§16), especially referring to his doctrine of the indeterminacy of translation. Davidson endorses this holistic attitude in his seminal essay “Truth and Meaning” where he says that “we can give the meaning of any sentence (or word) only by giving the meaning of every sentence (and word) in the language. Frege said that only in the context of a sentence does a word have meaning; in the same vein he might have added that only in the context of the language does a sentence (and therefore a word) have meaning”. Davidson's original theory of meaning gives a picture of language as a set of sentences whose meaning can be systematically given by their truth conditions. In the same essay he refers to “a certain holistic view of meaning” where “we can give the meaning of any sentence (or word) only by giving the meaning of every sentence (and word) in the language”.¹ It is usual to call this stance “global holism”.

Global holism has a disastrous consequence, denounced by Dummett 1973 in his comment to Quine's work, but easy to extend to the formulation given by the early Davidson. Assuming - for simplicity - a definition of meaning as inferential role, the paradox could be expressed in the following way. If the meaning of an expression is its inferential role, the meaning is the set of inferences connected with the given expression. However, given that there is no distinction between analytic and synthetic sentences, we cannot define a restricted set of relevant inferences which defines meaning (as e.g. analytical sentences given in the form of meaning postulates). If meaning depends on the entire language and on the entire system of beliefs of a speaker, given that there are no two individuals with the same identical set of beliefs, no two individuals may give the same meaning to an expression. But if two individuals do not give the same meanings to the same expressions, then they can neither agree nor disagree. Hence communication becomes impossible. The apparent paradox is therefore that if meaning is defined holistically, there is no meaning to be used in communication.

Dummett sees clearly that this criticism of holism is a criticism of its consequences, and then it is not a proof of the falsity of semantic holism; however it is evidence in favor of a methodological stance against holism (Dummett 1993,p.21). Certainly, if holism holds, we could find it difficult to explain communication within a traditional picture where sharing meanings is a presupposition of communication. But not being able to explain communication can be read either as evidence against holism or as evidence against traditional explanations of communication.

¹ Both quotations are from Davidson 1967, p.22
2. Alternative solutions to the paradox of holism

Given the paradox of radical holism, we have then the following dilemma: either abandoning global holism and finding a viable version of atomism (Fodor) or molecularism (Dummett) or keeping holism and abandoning the traditional view of communication as sharing common meanings or contents (Davidson, Brandom). I will treat some of these solutions and hint at some of their limitations, which seem to point towards an alternative: local holism.

The atomistic option has been strengthened by a well-known argument against any form of holism developed in Fodor-Lepore 1992 (which is a strengthening of Dummett’s argument). They claim that non-atomistic (or anatomistic) options are almost impossible to accept without either falling into holism or accepting a principled analytic-synthetic distinction, which has been shown untenable by Quine. If we accept the idea that in order to communicate we need to share some belief, we fall into holism because there is no principled distinction that allows us to decide which beliefs are the relevant ones (unless we accept an unwelcome principled distinction between analytic and synthetic). A way out, therefore, is the idea that only meanings are atomistic: each concept is an atom, which is causally activated in our mind (in our innate language of thought). Authors like Fodor 1998 claim that the atomistic option is the only one that allows us to overcome the problem of holism. The atomistic stance had received strong theoretical support with the publication of Wittgenstein's *Tractatus logico-philosophicus*. However, logical atomism, vivid in the early period of analytic philosophy, also received strong criticism from most philosophers, including Wittgenstein himself. The new version of atomism given by Fodor seems to be a psychological adjustment of an already untenable position. Strange enough, Fodor and Lepore accept the Quinean criticism of the analytic-synthetic distinction, forgetting that the main target of Quine's criticism is an atomistic theory of language (the idea that sentences have a meaning in isolation from other sentences). The dismantling of the atomistic theory of language implies the dismantling of the idea of the atomistic theory of the meaning of single words (which had already been strongly undermined by the results of structuralist linguistics and of the study of semantic fields). The new claims for atomism, even if upheld by naturalistic strategies, are supported more by the negative criticism of alternative options than by positive arguments. I will therefore not discuss the atomistic option here, and I will elaborate on the problem of verifying the robustness of other options and their possible adjustment.
The molecularist option is normally considered the stance where you have some basic beliefs (or some basic semantic properties) which are definitory for the meaning of words and sentences. This option falls under the criticism of Fodor and Lepore. They claim that any attempt to build up a molecularist stance (we share only some beliefs) drives you directly either into holism or into the acceptance of the analytic/synthetic distinction (either meaning is given by all beliefs or it is given by analytic definitions). However Perry 1994, Marconi 1997 and others claim that there is a weaker and viable form of molecularism which escapes this criticism. We have therefore to distinguish between strong and weak molecularism, where the distinction is given by the scope of the quantifier:

- **Strong molecularism**, which is supposed to lead to holism or to A/S distinction, might be expressed as such:

  \[ \forall p \exists q \ (q \neq p \& \text{Nec } (p \text{ is shared } \rightarrow q \text{ is shared}) \]

That is, if two people share a belief \( p \), there is some other belief \( q \), which must also be shared. Let us say, for the sake of simplicity, that if we share the belief that this ring is made of gold, we must share the belief that gold is a metal, or if we share the belief that the wheel is loose, then we must share the belief that a wheel is a circular frame or disk that revolves on its axis\(^2\). Fodor and Lepore claim that, unless you give a class of privileged sentences, you have no idea of how to choose the sentences to be shared. But to isolate a class of privileged sentences is to come back to the idea of a set of beliefs analytically connected with \( p \), therefore to come back to the analytic/synthetic distinction, which is to be rejected. What is wrong, however, with analytic/synthetic distinction?

Quine himself was certainly aware of the apparent utility of a weak distinction between analytic and synthetic. He claims that there is no "principled" distinction that is universally valid; however, for practical purposes, a distinction of the kind is needed, as Quine himself recognizes\(^3\). We may insist on the necessity of a distinction of the kind, relative to practical purposes, in any language in which you are operating. Strong molecularism (which seems to be the position still held by Dummett 1991) is therefore a stable position and coherent with the traditional view of communication. We might accept a relatively innocuous distinction which avoided the dichotomy "linguistic vs. factual", or "analytic vs. synthetic" and might assume some less compromising distinctions, like "definitory vs. assertional" or "meaning constitutive" vs. "derived", as in Cozzo 2002 who attempts an epistemological definition of meaning constitutive properties\(^4\). However, the difficulty of

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\(^2\) To make it simple, I make no difference here between natural kind terms and artifacts, even if there are clear differences, like the intrinsic indexical aspect of natural kind terms. The second example is taken from the peculiar molecularism held by Devitt 1996.

\(^3\) Especially in his last papers like Quine 1991.

\(^4\) Putnam made the first attempt at an epistemological definition of analyticity, followed by Boghossian 1997. Cozzo explicitly avoids speaking of analyticity and treats constitutive properties directly in terms of epistemic properties. There are also attempts to cross the boundaries of linguistic vs. factual, using a more fine-grained distinction along different parameters, like in Marconi 1997.
pursuing a strategy of this kind without falling into global holism is still to be overcome. It is not easy to fall into some form of constitutive global holism and we are left, up to now, with a program without widely accepted results. Therefore we may rightly have a suspicion on the appeal to any kind of distinction analogous to analytic/synthetic. Is it possible to build a molecularist position completely free from this danger?

- **Weak molecularism** is supposed to avoid both holism and the A/S distinction. It might be expressed as such:

\[ \forall p \text{ Nec } (p \text{ is shared } \rightarrow \exists q (q \neq p \& q \text{ is shared}) \]

That is, necessarily, if you share \( p \), there are other beliefs that are also shared. However there is no privileged set of beliefs that must be shared; it is necessary only that if \( p \) is shared, some not previously determined belief be shared. It is easy to see how the weak molecularist option is different from the strong molecularist one. This option maintains the classical view that communication is based on sharing some common content. Which content is not relevant at all; if you say to a hearer that your ring is made of gold, maybe you share just the wrong belief that gold is yellow; who cares? Or if you say that the wheel is loose, you share just the very vague belief that a wheel is round rubber stuff which sustains cars.

This position seems to be descriptively more adequate than strong molecularism; however it is highly unstable. To assert that you need to have some shared belief \( q \) if you hold a belief \( p \) cannot avoid the question of which kind of beliefs we expect to share. If two people may share few beliefs, certainly they are expected to hold some beliefs which are relevant to the matter. Maybe they do not share all the relevant beliefs, but we, speakers of a language, must distinguish what is relevant and expected and what is not. Sharing beliefs is on one hand an individual matter, on the other hand a social matter; there are beliefs shared in society, even if not shared by all individuals. Idealized individual competence is neither a universal encyclopedia nor a single set of casual idiosyncratic beliefs. If communication is, in this view, a sharing of contents, we cannot avoid the normative parameters considered are: universality vs. particularity, necessity vs. contingency, constitutivity vs. nonconstitutivity. We will have a scale from dictionary-like entries (bachelors are unmarried) to encyclopedic-like entries (Napoleon died in May 1821). All entries in between belong to different degrees of lexical competence. However the parameter "constitutive" (constitutive of semantic competence) is not defined and it is taken as primitive. Therefore the classification, interesting per se, does not solve the point discussed here.

5 For the terminology see Tennant 19xx, but also Peakocke 1997 who distinguishes epistemological holism and constitutive holism. On the difficulty of avoiding constitutive holism see for instance Penco 2002 related to Cozzo 2002. I refer here to a form of holism developed in the tradition of semantic networks. For Quillian 1967 each node of a semantic network activates the nearest nodes following some path in the network and is indirectly connected with every other node. Meaning can be computed at different degrees, depending on the number of nodes activated, and similarity of meaning is computed as similarity in activation of nodes starting from the node under consideration. However the idea that, given any system, the elements of the system are in principle connected does not necessarily imply meaning holism. In fact the claim behind semantic networks does not entail that to compute the meaning of an expression we have to run through the entire semantic network. However there is no clear assumption about restrictions in the numbers of nodes activated for individuating meaning. A well-founded claim against the argument leading from the idea of meaning as a place in a net of inferences to global epistemological holism is in Marconi 1997 (p.54-55): even if there is
problem of which contents are the best to be shared to improve successful communication. We need therefore a definition of the contents we expect to be shared, and we come back to the problems of strong molecularism. On the other hand, we might also say that strong molecularism deals with normative aspects of language and weak molecularism with descriptive aspects. But a rigid division of normative and descriptive is not welcome in the study of language, because what we expect to share can be descriptively defined in order to be taken as normative.

An alternative solution to the paradox of holism is to take holism seriously and to adopt a holistic option while rejecting the traditional view of communication presupposing shared meanings. Global holism has been expressed clearly in Davidson's theory of meaning based on the concept of interpretation and on Tarski's theory of truth, and has been the main target of Dummett's criticism. Davidson has not said much about communication in the early papers but a more detailed picture has developed since "Communication and Convention" and "A Nice Derangement of Epitaphs". Communication is not a sharing of the same contents (meanings) but a work of convergence between two different idiolects. During dialogue, we form a "passing" theory, provoked by the utterances of the other speaker. This passing theory is what an interpreter is able to build on the grounds of what he expects the speaker is thinking and of what she actually says. Speakers and interpreters therefore do not share conventional meanings, but converge toward the same meanings locally defined. There is however a deep problem with Davidson’s proposal, connected with his idea of language as depending on speaker and time. In this way, language is reduced to a partial overlapping of idiolects of speakers. Further criticism given by Dummett 1992, 1994 is mainly devoted to the lack of analysis of language as social institution and social practice, and of the need to resort to the idea of rule-following considerations to ground our understanding of the working of language. Even if Davidson 1992 tries to avoid rule-following considerations, his attempt seems to be circular: in the holistic theorists, the balance between intention and convention is broken, and communication becomes mainly a matter of intention, where success is given by the success of making our intention understood. The problem, Wittgenstein would say, is that we have to distinguish between thinking we have succeeded in making our intentions understood and actually succeeding. And intention alone cannot ground success. Giving too much stress to the

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6 The difficulty of separating neatly descriptive and normative aspects is often stressed by Dummett. In a similar vein, but not far from what is claimed here, Devitt 1996, who maintains that normative tasks in semantics derive from the results of the descriptive tasks.

7 It seems that there is a general tendency to recognize that "shared linguistic knowledge is no precondition for communication" (Hinzen 1999). However I will refer here only to some ideas on the original mix of holism and an alternative view of communication developed in Brandom's Making it Explicit.

8 I give a more detailed discussion on some limitations of Davidson's point of view based on the concept of triangulation in Penco forth.
problem of communication brings about the risk of giving an overwhelming role to intention in language. We need some background of agreement, institutions, and practice on which to rely.

Brandom's holism tries to take into consideration this background of practices. Besides, he completes the holistic picture with an important point: while he agrees with Davidson that we don't share contents, he insists on claiming that there is something we need to share in order for communication to work. What we share is the structure of considering our different contents more or less apt to a situation, the structure of (scorekeeping) abilities, which permits us to check and evaluate them. I think Brandom's intuition may help us to find a possible way out of the limitations of holism, and I will come back to that in the following.

3. Wittgensteinian (local) solutions

The solutions given above to the paradox of holism have all been criticized for some relevant aspects. I suggest that Wittgenstein's ideas, which seem to be at the heart of most of these solutions, have been misunderstood. First, we have to note that the quotation from Philosophical Investigation is in a very different context from the quotation from the Blue Book, to which Quine refers in Word and Object. Here are the two contexts:

“The sign (the sentence) gets its significance from the system of signs, from the language to which it belongs. Roughly: understanding a sentence means understanding a language”
[Wittgenstein 1958, p.5]

“ It is not possible that there should have been only one occasion on which a report was made, an order given or understood; and so on. --To obey a rule, to make a report, to give an order, to play a game of chess, are customs (uses, institutions). To understand a sentence means to understand a language. To understand a language means to be master of a technique” [Wittgenstein 1953, § 199]

The generalization of the Fregean context principle in the Blue Book is linked to a consideration of language as a system of signs, while in the passage from the Investigations,

9 I give a more detailed discussion on some limitations of Davidson's point of view based on the concept of triangulation in Penco forth. relying on Dummett's criticism. On the danger of linking language and communication too strictly Wittgenstein also helps: “Not: "without language we could not communicate with one another" – but for sure: without language we cannot influence other people in such-and-such ways; cannot build roads and machines, etc. And also: without the use of speech and writing people could not communicate” (PI§491)

10 The "holism" of the Blue Book is still partially linked to the idea of language as calculus, so clearly expressed in the second paragraph of the Philosophical Grammar: «What we call "understanding a language" is often like the understanding we get of a
language is considered an expression of rule governed actions. Besides, the quotation from the *Investigations* has two parts: in the first there is a reappearance in a new setting of the slogan from the *Blue Book*, and in the second there is a reference to the concept of technique. How is the first sentence to be interpreted? Is this second assertion relevant to our discussion?

Dummett (1993, p. 99) interprets this passage as an anti-psychologistic reaction of Wittgenstein’s against the idea of special “acts” of understanding a sentence. No special mental act of understanding is needed, but just the *state* of understanding the language and hearing the sentence. This interpretation of the passage is certainly coherent with Wittgenstein's philosophy more than the interpretation of it as a general declaration of holism. However, there is another aspect in this passage which deserves attention: the fact that Wittgenstein speaks of “a” language; we might think of a historical language (English, French, Spanish….), but also of a language game, which typically implies socially shared actions and is considered by Wittgenstein like an entire language. In this last case, this passage could be interpreted as a suggestion for some form of “local holism”, as opposed to global holism. While global holism considers the meaning of each expression as its role in the entire network of language, in Wittgenstein's attitude, understanding the meaning of a sentence is the mastering of some complete language game. In Wittgenstein's perspective, language itself, as a universal representation, disappears. We are left with a multifarious interconnection of language games, situations in which language and action are interwoven. Wittgenstein speaks of mathematics as a "motley of calculating techniques", where different proof techniques or proof systems cohabit, without necessarily being found in a unique system. Something similar can be said of the network of language games.

Therefore if we want to give a definition of meaning, we always have to give it relative to a language game. And if we want to define meaning holistically, we cannot define meaning relative to the entire language, but relative to single and specific language games.

As far as the second part of the Wittgensteinian quotation is concerned, a *technique* is something that is given by a practice - we master a technique if we follow some common rules. Therefore understanding a language is the ability to follow rules (social practices). This passage suggests a shift from sharing contents to sharing rules. What do we share? Brandom 1994 speaks of "sharing the structure, not the content". His point is that we do not share conceptual contents (or sets of inferences), but the structure of our treating inferences as correct or not. In the interplay of calculus when we learn its history or its practical application. And there too we meet an easily surveyable symbolism instead of one that is strange to us (...) In this case "to understand" means something like "to take in as a whole".

11 The concept of technique is not used much in the *Investigations*, but commonly used in the Remarks on the foundation of *mathematics*, mostly speaking of the technique of counting. Actually, the point made in the above-quoted passage concludes the main argument of the Investigations about rule-following, which derives, among its main sources, from the example of a simple
perspectives, we look for compatibility and for maximum agreement, but we never reach certainty
(we refer to authorities, even if no perspective is authoritative as such). As Brandom laconically
says, “there is only the actual practice of sorting out who has the better reason in particular cases.”12
However, the practice of sorting out who has the better reason is connected with the ability to
follow rules, and we need to sort out which kind of rules are the best suited for that purpose. The
picture of communication as sharing of contents can be substituted with a picture of communication
as sharing of rules. Contents may be locally shared, while rules for converging to the same contents
must be generally shared. The problem is where to fix the holistic aspect of the problem, and which
restrictions to give the holistic aspect, if we accept it. Brandom's idea may be considered a
development of the idea of communication as converging toward the same meanings, which
emerges from Davidson's picture given above. Brandom's strategy aims to give a restriction on any
form of holism: in order for holism to work, we need shared rules which help us to converge to the
same meanings13. We share general rules to converge toward the same meanings (inferences) in
local settings, and we do not need to start with the idea of the necessity of sharing the same contents
as a precondition for communication. Before coming back to the problems of rules in the last
paragraph, we need to define what it means to share meanings at the local level. In the literature we
have at least two basic options, which may both be called "local holisms”.

The first one is given by Tennant's interpretation of Dummett's molecularism as “a possible
blend of globally separable local holisms”14. If molecularism requires that to understand a sentence
you need not understand the entire language, but only subparts of that language, how can you define
these subparts, except in a holistic way? Dummett accepts some suggestions from Tennant,
especially that the fragment of language the mastery of which is needed to understand a sentence
might be a complete language. This is for him the right way to interpret the Wittgensteinian
generalized context principle quoted above, which - Dummett insists - is not an expression of
holism. In fact, Wittgenstein's remark "does not mean that to have full understanding of any
German sentence, you must have the complete knowledge of the German language, but that you at
least understand a fragment of German capable in principle of being the whole of someone's

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12 Brandom 1994, p.601
13 There is a difference with Brandom, given that Davidson rejects the possibility of giving a systematization of these kinds of rules.
Speaking of the general knowledge used to converge toward the same meanings during a conversation, Davidson 1982 claims that
"such general knowledge is hard to reduce to rules, much less conventions or practices" (p.278). Furthermore, about the capacity of
changing perspective and modifying our theory in the course of a conversation, he claims that "what we cannot expect ...is that we
can formalize the considerations that lead us to adjust our theory to fit the inflow of new information."(p.279; Davidson 19XX goes
even further speaking of the "mysterious process" of convergence). In Penco, forth. I have tried to claim the contrary.
14 Tennant, 1987, p.44
Can we imagine that this fragment might be organized holistically? Tennant's main idea is to keep a molecularist stance about connectives and a holistic one about lexicon in general. Dummett's answer is that we cannot make this move, for two reasons. The first is that it is wrong to assess the complexity of sentences only in terms of logical complexity. In fact a sentence of lower logical complexity might presuppose the understanding of a sentence of higher logical complexity. The complexity of a sentence therefore must be defined not only with respect to logical complexity, but also with respect to the understanding: we have to count a sentence as more complex than another "if an understanding of it depends upon an understanding of the other". This step rejects the idea of restricting molecularity to logical constants, but does not reject the idea that we might have a fragment of language about a particular topic, where - keeping molecularity for logical constants - we need to understand the entire set of relevant beliefs in order to understand one of them. This point is connected with the limits of the second reason given by Dummett. The second reason against Tennant’s idea is linked to constitutive holism. The point may be expressed in this way: there is no objection in principle to the existence of mutually dependent concepts, like color concepts. What Dummett resists is radical holism, the idea that "all concepts or, more properly, all meanings, form a single circle.". The relation between expressions, as far as understanding is concerned, is an asymmetric relation, and the sentences of a language form a hierarchic structure which deviates slightly from a partial order. However this does not exclude the possibility that, while rejecting radical holism, we accept the idea that significant fragments of language are always organized in mutually dependent meanings, and that the asymmetric relation is among fragments and not necessarily inside fragments (except from logical complexity).

A second alternative is Bilgrami's view 1992 whose strategy is explicitly devoted to face the paradox of holism keeping a holistic view. The solution, which gives an interpretation of Wittgenstein's idea of meaning as use, is the bipartition of two different treatments of meaning. On the one hand, there is a meaning on a theoretic or aggregative level, where theories of meaning do their work, but where there is no possibility of defining what people share. He claims that, at this level, "it is unlikely that any two people will have the same concept of anything since it is unlikely they have the same beliefs associated with the term which express that concept". On the other hand, there is the local level, at which we explain action (and communication). What is relevant is that the entire "aggregate" of beliefs that a speaker attaches to an expression is not relevant at a

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15 Dummett 1987, p. 251  
16 Dummett 1987, p.249  
17 Dummett 1987, p.251  
19 Bilgrami 1992, p.10; p.141  
20 Bilgrami 1992, p.11.
local level. We never use *all* we know in a local situation. Therefore the holistic theory of meaning is not relevant in the problem of content attribution or in explanation of behavior and communication. The good idea is maintaining that no two individuals share exactly the same set of possible inferences, like no two individuals share the same fingerprints or shape of the face. In fact, apparently there are in principle no semantic twins (at least if language is essentially indexical). However, each person has the ability to extract from her set of beliefs what is necessary to face local situations. As Bilgrami suggests (p.10), the aggregative concepts holistically elaborated by an individual provide the pool of resources from which to extract the beliefs that make up the local concepts. Communication always develops at a local level, where two people with different sets of beliefs associated to an expression will use only part of those beliefs, and exactly those needed at the local level. If I ask an expert in chemistry for a glass of water, I do not need to share any of her chemical knowledge; we "distill out" what we need for the use of the concept in that local situation.

However, even if it is true that we do not import all we know about, let’s say, “water” while asking for a glass of water, it is not clear how we choose from our basic information exactly what is needed. Bilgrami’s view has something magic in it: from our holistic pool of belief, we get exactly the same local beliefs other people pick up from their holistic pool of aggregate concepts. Certainly we find hints in the local situation, but the coincidence seems to have something mysterious. There are different suggestions about the way in which the locally shared meanings are constituted. One suggestion comes from Stalnaker 1999, who claims that the dialogue context is constituted by all the presuppositions of the people in the dialogue. This might bring too many elements to the local contexts, given that the presuppositions of the speakers may be different and too wide to be properly treated with limited computational resources. An alternative is given by Gauker 1998 as a criticism of Stalnaker's: It is reasonable to assume that we share some typical contents in advance in special local settings, where we are expected to do exactly what we do (to ask for a glass of wine in a bar, for a pint of beer in a pub). However the set of presupposed inferences or concepts can be given only in a normative assessment. Actual speakers often have really different ideas and concepts, and when we speak of the set of beliefs which form a presupposition of a conversation, we actually take a normative stance. We refer not to what is actually shared by two speakers (as it would be in Bilgrami and Stalnaker), but what they *should* share in order for the conversation to develop properly. And what is necessary to share is given by the objective goals of the conversation. This sounds very Wittgensteinian in spirit, given the vision of language as a multiplicity of language games as goal oriented activities.

21 By the way this is what grounds most studies about the use of frames and scripts in cognitive sciences.
Wittgenstein's attitude about language is a reaction against a unique representation of language as a single unit. Language is a social enterprise and different aspects are developed in different ways and contexts; but if there cannot be a unique representation of the working of language, there can be a careful description of different language games. Which kind of suggestions may come from Wittgenstein to give a better definition of local holism?

4. Some Wittgensteinian suggestions

A Wittgensteinian local holism should assert that the meaning of an expression depends on the totality of the other expressions used in the language game in which it is embedded. There is no possibility of defining the meaning of an expression independently of a language game, independently of a (kind of) context. Language games may perform the role of typical local contexts in which an expression is given a proper role or use or meaning. This amounts to a banal definition: you cannot know the meaning unless you have a context in which the expression is used just because if meaning is use, to know the meaning is to know the use of an expression in a (kind of) context in which it is located. In this perspective, the paradox of holism seems to disappear, first of all because, as we have seen before recalling Dummett's interpretation of Wittgenstein, there is no need to share mental contents (meaning is not a mental content). We are left with many holistically defined small language games or contexts: each context is autonomous, and takes lexical items as primitive, undefined expressions, whose meaning is implicitly given by the rules actually used in the context (in a non vicious pragmatic circularity). If we ask how we can share the use of the expressions, the question is answered by definition: language games are by definition shared public activities, and the work of the philosopher is to describe properly the working of those games. There is no problem of asking what we share: we share exactly what is open to view, the actual working of the game. However, even granting the concept of language games a publicly shared practice, there might always be questions or worries and we may always ask for the meaning of an expression which is normally taken as primitive in the game we are playing. It seems therefore that we cannot escape the question of searching for meaning constitutive properties.

This question can be answered only taking into consideration other language games. Even if a language game can constitute a complete language, it is never isolated from the other language games. Wittgenstein's suggestion here seems to point toward a solution, along his classical strategy.

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22 This is a general warning against the idea of literal meaning as given by Davidson, a meaning that is completely "a part from particular context of use." This idea easily maps the Kaplan idea of character. Still, even if we know the meaning of an expression independently of the context of utterance, we need to know how the expression would be used in a typical context. Without any possible context of use there is no meaning to attribute to any expression.
To answer "what constitutes the meaning of a word" requires answering the question "What does it mean to understand a word", which implies giving an explanation of meaning. How do I explain the meaning or the use of an expression? The way to explain the use is "describing it in made-up cases", that is, in stereotypical contexts. What Wittgenstein rejects is the idea that in answering a question on understanding "I try to call to mind its entire application." In this view, on the one hand, atomist is excluded, because an expression is given meaning only by putting it inside a wider context. On the other hand global holism (global competence holism) is excluded because the understanding does not imply giving all the relevant inferences or applications of a word. This sounds like a suggestion about cognitive architecture: we have typical contexts in which a word is used and in cases of doubt or worries we pick up an entire context to explain the meaning, we give a typical example of the use giving a context where the procedures for the use of the expressions together with the other expression is clear enough.

This is coherent with the idea of distinguishing primary and secondary meaning, a distinction clearly drawn by Wittgenstein (PI,II,IX). Given the strict correlation between meaning and context, we need therefore to distinguish between primary and secondary meaning-defining contexts. This is the price a Wittgensteinian local holism should pay: we may avoid speaking of the meaning constitutive properties at the price of speaking of meaning constitutive contexts, the contexts in which the expression is "at home".

Taking over this general lines of a Wittgensteinian local holism, we need to make some terminological distinctions: we have to distinguish the idea of a Dummett-like local holism from a Bilgrami-like local holism, that is

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23 PG §28, pp.64-65. The word in the example is the word "perhaps", and I think the example suggests something about the poverty of the idea of centering a theory of meaning on the concept of reference (where reference is intended to be given naturalistically by the causal power of natural items on our brain).

24 A solid core of procedures lies behind the possibility of variations of the uses of words in contexts. This procedural aspect of meaning together with the idea of typicality or default values is the heritage of the first period of artificial intelligence, with the procedural paradigm of toy words and the development of frame systems with default values. We may point out that even in early toy words meanings as procedures were assured compositionally? (see Penco 1999). Criticism on absence of compositionality in prototype theories (see Fodor 1998) does not extend to the procedural paradigm of meaning. Granting contextual restrictions to compositionality, we may accept a development of the concept of meaning as procedure in both aspects pertaining to inferential and referential competence (see Marconi 1997, who tries to avoid speaking of "meaning", and tries to explain the dual aspect of lexical competence). This solid core of procedural meaning can be an explanation of the relative invariance of the conceptual lexicon (invariance also among languages and cultures) which is a datum we cannot avoid.

25 The idea is a usual tool in artificial intelligence since Minsky's idea of frame, developed after the Wittgensteinian idea of family resemblance. Clark 1992 speaks of "introductory scripts", referring to contexts appropriate to introduce a new expression.

26 Wittgenstein's notion of being at home might help. In the Investigations he suggests that misunderstandings arise when a word is not used in its normal context, and you should ask: "is the word ever actually used in this way in the language-game which is its original home?" (PI §116). The idea seems that there is an "original" home, or a stereotypical (kind of) context in which typically people are introduced to the expression the first time. notion of being "at home" in a conceptual world (Zettel §165) is linked with the notion of familiarity (and family resemblance), and makes it possible to connect remarks on objects and remarks on linguistic expressions. Think of PG §116, speaking of the familiarity with an object of visual perception, like a table: "the familiarity can only consist in my being at home in what I see". The basic idea is that basic typical or defintory contexts are such that you do not find the need to interpret. When you are with a doubt or a worry, you need to recur to an interpretation, and you get out of your
(i) a local holism intended as the idea of meaning as implicitly defined by the total setting of a language game

(ii) the idea of meaning as something which is holistically defined at an individual's level (but also at a social level), part of which can be shared at a local level.

The first is a normative definition of meaning as use, the second is a description of the relevance of individual differences in the subjective representation of meaning.\(^{27}\)

We have therefore to distinguish two kinds of problems:

(i) the problem of giving a normative assessment of the working of language at the level of standard reconstructions of typical (kinds of) language games, with an appeal to authorities distributed in the community (dictionaries, experts, and so on). Here we have the problem of which kinds of are entertained among different language games.

(ii) the problem of the individual representation people have of language games in which they participate. Here we may have very different descriptions and we have to pose the problem of how can we make these descriptions compatible.

The two problems are apparently connected, because the study of how language games are organized has a relevant impact on the way individuals have access to and describe them; on the other hand, studies on the cognitive architecture might give suggestions on how we organize our socially shared linguistic activities.

An example of the point in which the two problems are connected is the problem of describing and justifying successful communication. We have used Gauker's idea of a normative attitude toward conversation; people share on a local level what should be shared from the point of view of the goal of the conversation. However, not every language game is goal-oriented; and often in a conversation\(^{28}\) there is no single goal, or the goal is changing from time to time, and we have no clear idea of what should be presupposed or shared. Therefore we have to decide what to share at local context to enter these basic contexts, where interpretation is no more needed: “I do not interpret, because I feel at home in the present picture. When I interpret, I step from one level of thought to another.” (Zettel §234).

\(^{27}\) Concerning the second definition of local holism, we do not need to be global holists at the level of cognitive architecture to be local holists. We might also say that meanings are defined (either atomistically, or molecularistically) at the social or individual level and we locally focus on a peculiar part each time we enter a local context. There is in fact a deep problem about the tendency to assert than any description of a meaning theory or of a theory of lexical competence is a theory about the competence of an individual. An individual changes her mind every day or minute, and we should have the representation of an individual competence at a certain time. Some reactions against this attitude are strong and radical, such as the one hold by Devitt 1996. We may ask if this idea of theory of meaning is a reasonable enterprise. A description of the linguistic system of an individual idiolect would be like a description of an individual face. Art might help, not science. The background intuition, never made explicit, is perhaps that our cognitive architecture is given by an unstructured holistic collection of beliefs (let us say a theory of meaning in Tarki's style). But even a more structured set of beliefs (any artificial cognitive system) runs the risk of giving a wrong idea of our cognitive architecture if interpreted as the representation of an individual's competence. Certainly an artificial system will have its own system of beliefs; however its cognitive architecture will have to rely on socially structured information, and on the ability to recognize authorities if needed.

\(^{28}\) Think of small talk, which properly conveyed, is one of the most difficult kinds of linguistic exchanges.
each step of the conversation, or we have to bargain the content of our assertions with the other interlocutor. If we are not clearly guided by the goals of the local setting, then we have to build it piece by piece, through a continuous readjustment of our expectations. This work of convergence or bargaining toward the same meanings and references in local settings is a further task of semantic analysis, and needs a working out of the kinds of rules which help moving inside and among language games.

4. Rule-governed locality

The general moral coming from our rapid description of the problems behind local holism is the following: the description of (kinds of) language games or local contexts must be completed by an analysis of the connections and transformations among language games. In Wittgenstein's *Philosophical Investigations*, the study of the relationships among language games is left to a very general level of programmatic remarks, also because the main purpose of using language games is the philosophical purpose of dismantling some misleading pictures connected with some philosophical theory of language. The basic strategy about relations among language games is the strategy of finding "intermediate members" among them. There is mainly a simple rule: start with a language game, then enrich it with new elements (numerals, colors,...). This strategy, typical of the *Blue and Brown Books* and of the *Investigations*, is devoted to finding an order in the presentation of the working of language. The main relation studied is the relation of enrichment, where an entire conceptual space (colors) is imported or lifted in a language game to enrich its expressive possibility. However - mainly restricted to the relation of enrichment - the analysis of the relations among language games is not as rich as it could be. I think this is exactly the point where the Wittgensteinian picture of language needs a supplementation. If meaning depends on language games, and it is therefore locally defined, we need a clear representation of the different kinds of relations among language games. For local holism to work, we need to define rules that are valid among and across language games.

Some ideas about this definition of rules across language games come from studies in contextual reasoning in artificial intelligence. There is an apparent similarity between the Wittgensteinian picture of language games and the basic ideas of multi-context theories developed since the nineties in artificial intelligence. In multi-context theories you cannot develop a single formalization for "the" language, but you are bound to describe different contexts as different theories, each one with its language, axioms and rules. Even if the main motivation of Wittgenstein's remarks is philosophical disillusion, the peculiar point in which he performs his quiet
criticism of philosophical pictures is very similar to the point developed in the discussion of contextual reasoning. Both insist that you may find people interpreting what you say in an unexpected way, because the meaning of what you say may change depending on different contexts, different presuppositions, different axioms. McCarthy 1987, 1993 says that, given any sentence, you may always find, with some ingenuity, some axioms where the sentence can be interpreted as false or however different from the intended interpretation. This depends also on the fact that we normally assume some general presuppositions without making them explicit (that penguins fly presupposes that there is atmosphere). And we may always find different presuppositions. His answer insists on the importance of making any assertion relative to a specific context and studying the rules that permit to enter and exit a context, and to navigate among different cognitive contexts. Each expression or sentence is not interpreted once and for all, but only has default values, and it may receive different interpretations depending on the explicit context in which it is placed. Wittgenstein 1953 says that given any sentence (or any rule) you may always find an interpretation different from yours. This depends also on there being a background of practices and abilities that are taken for granted. These presuppositions are normally not made explicit, and when they are, they become part of the network of information and inferences used. Wittgenstein's answer insists on the difference between interpreting a rule and following a rule. Rules are social practices, which are followed before being interpreted; therefore in understanding language we cannot rely only on interpretations, but we have to rely on social practices, laid down in language games. Each expression or sentence is never fixed once for all but, in Waismann's terminology, reveals an open texture which depends on the multiple unpredictable ways to describe the situation in which the expression or sentence is used. The idea is very similar to the original claim given by McCarthy, at least in the way Bianchi 2003 expresses it. The basic point is the "impossibility in principle to view in advance all circumstances that would prompt us to modify or cancel a sentence, to individuate new experiences which would compel us to give a radical redescription of a piece of our theory of the world."³⁰

I suggested that the detailed study of the rules which work across contexts is exactly what is missing in Wittgenstein's approach, even if his philosophy clearly goes toward this clarification. This kind of study is also what is missing in the different attempts to face the problem of holism. All attempts to solve the problem of holism end up with a search of shared contents: communication is either the sharing of meanings (Dummet's molecularism) or a convergence toward some shared meanings or contents (Davidson's holism). We have already remarked that Davidson does not give

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²⁹ I refer here to the discussions given in Wittgenstein 19xx (on certainty) and I use the terminology and the assessment given by Searle 19xx.
³⁰ See Bianchi, this volume.
any important explanatory role to the rules that govern convergence. On the contrary, the suggestion stemming from artificial intelligence is that any confrontation of different contexts needs a (formal) treatment of the rules which govern our relations with contexts. We need to express clearly rules to enter and exit contexts, to navigate across contexts, to master the way in which the convergence between different theories and sets of beliefs works, and so on. For communication to be successful, we need to share these high level rules, and the formal study of this kind of rules may help to understand exactly the strategies used in successful communication. There are many presentations of rules for navigating across contexts, which can be put under the general label of "multi-context theories". Mc Carthy 1993 speaks of rules of entering and exiting contexts, or of lifting a sentence from one context to another; Giunchiglia 1993 speaks of bridge rules which permit drawing a conclusion in a context from a premise in another context; Fauconnier 1997 (ch.6) speaks of rules for blending concepts from different contexts; Benerecetti et alia 2000 summarize most of the research in three kinds of mechanisms of contextual reasoning: localized reasoning, push and pop, shifting. These three mechanisms correspond to three basic aspects of a contextual representation as partial, approximated and perspectival.

The point I want to make here is that we cannot be content with a general pragmatic maxim of the kind: first decide the context, then ask for the meaning. Certainly a basic definition of local holism should give restrictions to the meaning of linguistic expressions relative to specific contexts in which they are used. However we need a distinction between two different kinds of rules, internal and external to a definite context or theory. Using Wittgensteinian terminology, we might speak of rules governing the working of language games, and the rules governing relations among language games. We learn both kinds of rules, but it is important to keep them at different levels, even if they have the same general form. For instance, we may learn Modus Ponens in a context, but we may also apply Modus Ponens through contexts, taking a premise from one context and the other from another context and derive the conclusion in one of the two (think of reading a Sherlock Holmes Story, saying that Holmes is going to Paddington; we may infer that he is going to a railway station taking the information that Paddington is a railway station from our knowledge of the actual London, and coming back to the novel concluding that Holmes is going to a railway station. This Modus Ponens seems to run across different contexts, and we need to accept a compatibility of information through kinds of contexts to use inferential jumps like this. We have to learn where the MP between two contexts can be used in a symmetric way or not (we cannot normally use a premise from the SH story to the actual world, unless in a counterfactual way). Our ability is given

31 I take the label as a very general category; the terminology is spread also in philosophical literature, for instance in Gauker 19xx.
32 I hinted at three basic different kinds of rules in Penco forth., relying on Beneeretti, Bouquet, Ghidini 2000. For a general introduction to different multi context theories and the notion of bridge rules see Akman,Surav...
by the general capacity to distinguish these kinds of compatibility relations among contexts, even the peculiar applications may depend on cultural grounds.

Conclusion

We have seen that many traditional answers to the paradox of holism (if holism works, you cannot share meanings in advance) have some weaknesses. This led us to treat the concept of "local holism" in two versions, one inspired by Tennant (and Dummett) and the other inspired by Bilgrami (and Davidson). The attempts to give expression to local holism seem very akin to the Wittgensteinian ideas, even if we need to distinguish more carefully between problems arising from descriptive and normative aspects in the treatment of the working of language. One of the main problems which arises in both descriptive and normative areas of inquiry is the problem of the relations among language games. This kind of worry is central to some part of the work developed in a.i., especially in contextual reasoning. Here we find some notions that a proper Wittgensteinian local holism should develop: holism works inside each language game, but finds a restriction in the compatibility among language games. And a proper expression of the relations of compatibility may be given only by high level rules working across contexts.

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