

CONTEXT AND QUANTIFIER DOMAIN*

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Abstract: There are some salient explanatory models for the semantic phenomenon known as quantifier domain restriction. Each of these models sees the context of utterance as playing a different role. A particularly clear and helpful way of organizing the issue is offered by Stanley and Szabó (2000), who distinguish three kinds of approaches, and argue for one of them in particular (i.e., the one they call *semantic model*). In this paper, I argue that neither Stanley and Szabó's arguments against the rival approaches nor their arguments for the semantic approach are conclusive.

Keywords: Quantifier. Context of utterance. Pragmatics. Binding. Hidden variables.

CONTEXTO E DOMÍNIO QUANTIFICACIONAL

Resumo: Há alguns modelos explanatórios proeminentes sobre o fenômeno semântico conhecido como restrição de domínios quantificacionais. Cada um destes modelos considera o contexto de proferimento como desempenhando um papel diferente. Uma forma particularmente clara e útil de organizar a discussão é proposta por Stanley e

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Szabó (2000), que distinguem três tipos de tratamentos, e argumentam em favor de um deles (i.e., aquele que eles chamam de *modelo semântico*). Neste artigo, eu procuro mostrar que nem os argumentos de Stanley e Szabó contra os tratamentos rivais nem o seu argumento em favor do tratamento semântico são conclusivos.

Palavras chave: Quantificadores. Contexto de proferimento. Pragmática. Ligação. Variáveis ocultas.

I. QUANTIFIER DOMAIN OF UTTERANCES

Let us imagine the following situation: suppose you are invited for a party at a friend's house and, willing to contribute somehow, you bring some beer with you. When you arrive, your friend asks whether he should put the beer in the fridge before people can drink it. Since you brought the beer already cold from the liquor store, you answer

- (1) Every beer is cold.

What exactly do you communicate to your friend? Since you employ the quantifier 'every beer', your statement, if taken literally, seems to be about every beer in the world, i.e., one might take you as saying that every single beer in the whole world is cold. But, of course, this is not what your friend understands (and most likely not what crosses your mind when you utter it). Of course neither you nor your friend cares about the beer in the rest of the world (although it would be nice if every single beer in the whole world were already cold), but only about those beer that are relevant in that particular situation. What you mean to communicate and what your friend most likely understands is that every beer that you brought or that you are carrying is cold, but you do not need to explain that to him, and he does not ask for an explanation either.

This means that there is a difference in the domain of the quantifier ‘every beer’ taken literally and taken in this particular context.

Something similar happens with other quantifiers. E.g., when you sit in a café and the waitress asks whether there is anything that you want, you most likely won’t tell her “yes, I want a long and happy life, and maybe world peace as well”. She and you most likely understand the quantifier present in her utterance as having a restricted domain, i.e., as ranging over the food and drink normally sold at cafés.

I should make a brief remark about the kind of expressions that I am calling ‘quantifier’ in this paper. If we are dealing with a formal language, it seems enough to consider as quantifiers only the classic universal and existential ones, i.e., ‘all’ and ‘some’. (Maybe we could also include the definite article ‘the’ here.) But if we are dealing with natural languages, it might be more natural to consider a broader class of expressions as quantifiers for some reasons that I will not discuss here. I am following Barwise and Cooper (1981, p. 168) and Neale (1990, p. 42), and calling ‘quantifier’ any expression formed by a determiner (i.e., expressions like ‘the’, ‘some’, ‘all’, ‘most’, ‘few’, ‘many’, etc.) followed by a conceptual term (e.g., ‘men’, ‘student(s)’, ‘table’, ‘soccer fan(s)’, etc.). More generally, if Φx is a well formed formula with a free variable x , and D is any determiner, then $[Dx: \Phi x]$ is a well formed quantifier.¹

The phenomenon illustrated in the situations above is usually called *quantifier domain restriction* in the literature, and it is ubiquitous. Except in few special cases, sentences containing quantifiers normally seem to go under some process of domain restriction when uttered in a context. This is most clearly true in

¹ For the sake of simplicity, I shall sometimes restrict my discussion in this paper to quantifiers like ‘all men’ and ‘every student’ (i.e., quantifiers having the classical universal quantifier as determiner), although the same kind of arguments considered can be raised for the other quantifiers.

cases like ‘every beer is cold’, ‘every seat is taken’, ‘everyone went to Maria’s party’, etc., but also equally present in the case of other quantifiers of natural language such as ‘most people dislike him’, ‘some athlete will get the gold medal’, ‘two students failed the test’, ‘the manager should know this’, etc., as Neale (1990) (among others) argues. Clearly the context has some influence in this restriction, since (1) uttered in different contexts would be about different groups of beer. E.g., ‘every beer is cold’ said by your friend to someone else that opens his fridge means that every beer that he can see in that fridge is cold, while the same sentence uttered in a local pub would mean that every beer in that pub is cold, etc, although the literal meaning (if there is such a thing²) for each one of these utterances would be one and the same, i.e., that every beer in the world is cold. So, the context of utterance seems to have some role in restricting the class of beer that is relevant in each situation within the class of every beer in the world, i.e., the relevant class that you are most likely thinking of, and that your friend understood as being the subject of your utterance.

What exactly is the role of the context in quantifier domain restriction? There are some salient explanatory models. A particularly clear and helpful way of organizing the issue is offered by Stanley and Szabó (2000), who distinguish three kinds of approaches, and argue for one of them (i.e., the one they call *semantic model*). In this paper, I shall argue that neither Stanley and Szabó’s arguments against the rival approaches nor their arguments for the semantic approach are conclusive.

² Recanati (2004), for instance, denies that there is such a thing as the literal meaning of an utterance for all contexts.

II. QUANTIFIER DOMAIN RESTRICTION: THREE APPROACHES

The first approach is called *syntactic ellipsis*³ by Stanley and Szabó. According to it, the context of utterance plays a role at the level of the linguistic expressions. I.e., in an utterance like (1), the context supplies the expression ‘every beer’ with a complement, e.g., ‘that I brought’, so that the expression that is taken into consideration is ‘every beer that I brought is cold’. The expression ‘that I brought’ is not, strictly speaking, part of the original utterance, but is supplied by the context. As the name suggests, this approach takes as paradigm of what is going on a kind of linguistic phenomenon known as *syntactic ellipsis*. An example of syntactic ellipsis is the following:

- (2) John voted for Obama, and Jane too.

The expression ‘voted for Obama’ does not occur in the second part of the utterance. But it is clear from the linguistic context that what should be considered is the expression

- (3) John voted for Obama, and Jane *voted for Obama* too.

³ The term ‘syntactic ellipsis’ should not be taken in its technical sense here. I guess Stanley and Szabó have chosen it simply for the suggestion of a helpful analogy with a similar (but different) linguistic phenomenon. For in genuine syntactic ellipsis, the missing linguistic material is, in general, recoverable from the linguistic context alone (as in (2)), no extra-linguistic element being necessary (as it is in the utterance of (1)). Moreover, in genuine syntactic ellipsis, the missing linguistic material is usually clear and unique. As we will see below, this is not in general the case with contextual completion of quantifiers, since there are many different ways of completing the original expressions.

In cases like this, the context plays a role in making clear the expression that should be taken into account. This approach is a generalization to all quantifiers of Sellars' (1954) defense of Russell's theory of definite descriptions against one of Strawson's criticisms. As we know, Strawson criticizes Russell's theory of definite descriptions for its apparent inability to account for referring incomplete definite descriptions. I.e., if Russell's theory were right, an incomplete description such as 'the table' should either refer to the only single table existing in the universe or refer to nothing at all. Since there is, of course, more than just one table in the universe, the indefinite description should not refer at all. But, as Strawson points out, it clearly can refer to a particular table when uttered in a particular context. Sellars' reply on behalf of Russell's theory is that the incomplete description can always be seen as an elliptical form of a complete definite description (the right completion being determined by the context of utterance). E.g., 'the table' can be seen as elliptical for 'the table over there' or 'the table in front of me now'.

A good way of understanding this role of the context is by using the distinction drawn by Stanley and Szabó between *phonological expression* and *grammatical expression* (p. 227). The phonological expression is simply a sequence of sounds (or letters) in a certain order, while the grammatical expression is a lexical item (or is composed of lexical items in a certain syntactic structure). The same phonological expression (e.g., 'John went back to the bank') can be at the basis of two distinct grammatical expressions, i.e., one meaning that John went back to the bank as financial institution (e.g., if we are talking about John's attempts to get a loan) and the other one meaning that John went back to the bank as a place for sitting (e.g., if we are watching a soccer game and John got a red card). Maybe we could mark the difference by writing

- (4) John went back to the bank₁
and
(5) John went back to the bank₂

where ‘bank₁’ and ‘bank₂’ are two different grammatical expressions, although the same phonological expression. The context plays a role here in making clear which grammatical expression is to be taken into account. We could see here an example of what Perry (1998) would call the *pre-semantic* role of context, i.e., a role in which context is not properly operative in connecting an expression to a meaning (or an extension), but in selecting one or other (grammatical) expression. In the specific case of a quantifier like ‘every beer’, the context does not associate a domain directly to it, but rather transforms it into the expression ‘every beer that I brought’, and it is this second expression that has a relevant domain. Since theoretically everything is made explicit in this second expression, the context plays no additional essential role in fixing the domain. The whole job is done at the linguistic level.

The second explanatory model is what Stanley and Szabó call the *semantic approach*. According to it, the context operates by directly connecting a quantifier to a domain. When you utter (1) in a particular context, the latter assigns a relevant domain to ‘every beer’, pretty much in the same way that the context in which ‘I am in Spain’ is uttered assigns to ‘I’ a certain value (namely, the agent of the utterance). The suggestion is, hence, that there is something resembling an indexical element in the quantified sentence as type. But no domain variable shows up in the surface grammar of the sentence ‘Every beer is cold’ (differently from ‘I am in Spain’, where ‘I’ is a variable that, in each context, takes the agent of the utterance as its value), and hence the variable must be present in the deep

structure (logical form) of the sentence.⁴ We could see here an example of what Perry (1998) would call the *semantic* role of context, as opposed to the pre-semantic role. That is to say, what we have here is not the transformation of the quantifier into a more complete one, like in the first approach, but the attribution of a value (domain) directly to the original quantifier.

Finally, we have what Stanley and Szabó call the *pragmatic approach*. According to this approach, when you utter (1), you simply express the proposition that every beer in the universe is cold. This proposition is certainly false, and maybe useless for the choices that we have to face. However, this false proposition is contextually transformed into a true and more useful one by means of pragmatic mechanisms such as conversational maxims, implicature, etc. Here all sorts of elements present in the context may be relevant in the process of transforming the literal proposition into another one (i.e., the one with restricted domain). As Stanley and Szabó describe it, “[the pragmatic model] account[s] for quantifier domain restriction in terms of Gricean-like inferences from the proposition expressed to the proposition communicated” (*ibid.*, p. 240). For this approach, quantifier domain restriction is structurally analogous, e.g., to irony: something is literally said, but it is clearly not what the utterer wants to communicate. When in view of something annoying that someone has done you say

(6) He is a nice person to have around

there is something that was literally expressed, namely, that the annoying man is a nice person to have around. However, given the

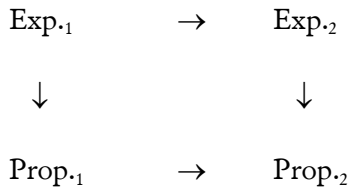
⁴ Of course if one chooses this model, one has to provide evidence for the existence of such variables, and for where exactly they are located in the deep logical form of the sentence. I will discuss later the evidence provided by Stanley and Szabó.

obvious absurdity of your statement, and given some relevant conversational rules, your audience is able to calculate what you really intend to convey, which is the one that would be expressed by a different utterance, namely

- (7) He is a terrible person to have around.

We could see here an instance of is what Perry (1998) would call the *post-semantic* role of context, i.e., after the semantic values of all (indexical and non-indexical) expressions of the original utterance have been assigned and the complete meaning calculated by compositional rules, one still has to figure out what was meant to be *communicated*, and here we might have to pay attention to some other relevant elements of the context.

Each approach explains the quantifier domain restriction as a phenomenon occurring at a different level. We can schematically express the different models using the following diagram, where Exp_1 is a quantified sentence like ‘every beer is cold’, Exp_2 is the expanded sentence like ‘every beer that I brought is cold’. Prop_1 and Prop_2 are the corresponding propositions, i.e., Prop_1 has unrestricted domain, and Prop_2 has restricted domain:



The phenomenon of quantifier domain restriction occurs because an occurrence of Exp_1 in a particular context ends up communicating Prop_2 . The diagram shows the different routes to quantifier domain restriction, with different interventions from the context. The

syntactic ellipsis approach takes us from Exp.₁ to Exp.₂, and the proposition thereby expressed is Prop.₂. The context plays a fundamental role in the first (purely linguistic) stage. The pragmatic approach takes us from Exp.₁ to Prop.₁, and from the latter to Prop.₂. The context plays a fundamental role in the second (purely propositional) stage. The semantic approach takes the diagonal short-cut that goes directly from Exp.₁ to Prop.₂ (without stopping at Prop.₁ or at Exp.₂), and this is where the context plays a fundamental role.

Following Stalnaker (1997), Stanley and Szabó distinguish two different questions related to the role of context in semantics (*ibid.*, pp. 222-3). One of them is related to which values are assigned by each context to an expression *e*, given a previous characterization of the salient features of the context that are relevant for *e*. They call this the *descriptive problem*. The other one is related to the explanation of how (and in virtue of what) a particular value is selected as the value of *e* in a context. They call this the *foundational problem*. The distinction becomes very clear in the case of demonstratives. One can explain how a demonstrative works by pointing out that its value is the object of the accompanying demonstration in each context, thereby answering to the descriptive question. But one can also explain in virtue of what one particular object is demonstrated in a particular context, thereby answering to the foundational question. In the arguments that we are discussing here, Stanley and Szabó concentrate only on the descriptive question, leaving aside the foundational question.

III. THE ARGUMENTS FOR THE SEMANTIC APPROACH

Stanley and Szabó advocate the view that the semantic is the only adequate approach for quantifier domain restriction. Their argument is mainly indirect, i.e., they try to show that both the syntactic ellipsis and the pragmatic approaches face some insur-

mountable difficulties not faced by the semantic approach, and so, by exclusion, the semantic must be the best approach. Of course this line of reasoning assumes that these are the only possible models of explanation of quantifier domain restriction. More precisely, this line of reasoning presupposes that we have a real trichotomy of the logical space of possible accounts here. This is certainly questionable, but I will not pursue this particular issue here.⁵

First, Stanley and Szabó argue against the syntactic ellipsis approach. Here they follow a remark made by Wettstein (1981) and later voiced by Reimer (1998). Wettstein's remark occurs in the context of his discussion of Donnellan's distinction between

⁵ Neale (2000, pp. 288-9), for example, does not recognize a real distinction between the semantic and the syntactic ellipsis approach (which he calls, respectively, "implicit" and "explicit" in Neale (1990)). He argues that they can actually be seen as "notational variants" of one another. The basis for this remark is the following: suppose that $[\Delta x:\Phi x]$ is the unrestricted quantifier which gets, in a certain context, the restricted domain D . In the syntactic ellipsis approach we would represent the quantifier in this context as elliptic for $[\Delta x:\Phi x \& \Psi x]$ (where Ψx is the open formula that completes the quantifier in this context). In the semantic approach we would represent $[\Delta x:\Phi x]$ as something like $[\Delta x:\Phi x]_D$, i.e., D is the value contextually assigned to $[\Delta x:\Phi x]$ (if the restricted domain is assigned to the quantifier) or as $[\Delta x_D:\Phi x \& \Psi x]$ (if D is assigned to the determiner). We can now translate the syntactic ellipsis representation $[\Delta x:\Phi x \& \Psi x]$ into the semantic one by taking $\{x/\Psi x\}$ as the restricted domain, i.e., $[\Delta x:\Phi x \& \Psi x]$ might be translated as $[\Delta x:\Phi x]_{\{x/\Psi x\}}$ or $[\Delta x_{\{x/\Psi x\}}:\Phi x]$ (depending on whether the restriction is on the quantifier or on the determiner). On the other hand, the semantic representations $[\Delta x:\Phi x]_D$ or $[\Delta x_D:\Phi x]$ might both be translated taking $x \in D$ as the completing open formula, i.e., as $[\Delta x:\Phi x \& x \in D]$. I think that Neale's point does not carry much conviction here. The fact that one notation can be translated into another does not eliminate the fact that each account recognizes a completely different role played by context in quantifier domain restriction.

referential and attributive uses of definite descriptions, and was meant as part of a criticism of the syntactic ellipsis approach for incomplete definite descriptions, i.e., definite descriptions like ‘the book’, or ‘the next president’ which, *per se*, fail to specify a unique object (since there is, of course, not just one single book or only one next president in the universe). Nevertheless, these descriptions, when used in a particular context, normally do refer to a particular object (a particular book or a particular person). The syntactic ellipsis approach sees the incomplete descriptions uttered in a context as elliptical for complete descriptions, i.e., a more detailed one that designates one single object. In the case in question, ‘the book’ in a certain context might be elliptical for ‘the book that Arno is reading on April 28, 2009’ (there is one and only one) and ‘the next president’ might be an elliptical expression for ‘the next president of Brazil to be elected in 2010’. The problem with this view, according to Wettstein, is that there is no unique expression that the incomplete definite description can be seen as elliptical for. In our example, ‘the book’ could be elliptical for ‘the yellow book on the table of Room 320 of IFCS on April 28, 2009’, or for ‘the book that is being discussed in Arno’s seminar on April 28, 2009’, etc. Any of these descriptions would do equally well as the expanded form of ‘the book’, since one and only one book (the same one) satisfies all of them.

Now, according to Stanley and Szabó, the problem generalizes to all quantifiers. As they say, “the main problem [of this model] is that of underdetermination. There are very few cases where there is a single plausible candidate for the role of the domain restricting predicate” (*ibid.*, p. 237). That is to say, there is normally not just one expression that is the unique candidate from completing the original expression in a context. In my example above, the expression ‘every beer’ could, in that context, and with equal plausibility,

be completed with ‘that I brought’, or ‘that I am carrying’, or ‘that you are seeing’, etc.⁶

Stanley and Szabó criticize the pragmatic approach as well. The following passage contains the main motivation for their objection:

The obvious disadvantage [of the pragmatic approach] is that one has to abandon ordinary intuitions concerning the truth or falsity of most sentences containing quantifiers. This is worrisome because accounting for our ordinary judgments about the truth-conditions of various sentences is the central aim of semantics. Since these judgments are the data of semantic theorizing, we should be careful with proposals that suggest a radical revision of these judgments. (*ibid.*, p. 240)

Their argument against this approach goes in two stages. First they undermine an argument for the pragmatic approach proposed by Bach (1994⁷) and, second, they argue directly against this approach

⁶ They reformulate their complaint in terms of the distinction between the descriptive and the foundational problems:

The concern is that the syntactic ellipsis approach to quantifier domain restriction provides a solution to the descriptive problem by placing intolerable burdens on any possible solution to the foundational problem. If context has to provide a specific predicate whose extension will contribute to the determination of the domain, a solution to the foundational problem involves specifying the relevant features of the context which select the predicate F among other candidates. (*ibid.*, p. 238)

Unfortunately, no clear explanation is given of why these restrictions would represent “intolerable burdens”.

⁷ I am leaving aside the fact (irrelevant for our discussion here) that Bach’s approach does not exactly fit my characterization of the pragmatic approach here. For Bach, pragmatics is responsible not only for the quantifier domain restriction (i.e., the transformation of Prop.₁ into Prop.₂), but also for transforming a non-propositional entity that is semantically expressed by Exp.₁ into a complete proposition.

by presenting examples of quantified sentence within the scope of another quantifier. According to them, the pragmatic approach cannot explain the intuitive reading of these examples. Only by assuming the existence of a hidden variable for the domain in the first quantifier one can explain the intuitive reading.

Bach argues that there is no reason to suppose that the proposition expressed by (1) in the situation illustrated has a restricted domain. His point is based on the contrast between (1) and other quantified utterances where no restriction seems to be needed. Syntactically parallel sentences should receive semantically parallel treatments and, hence, if there is no restriction in one case, there should be no restriction in the other case either. In

(8) There is a beer on the table

no quantifier domain restriction seems to be required, since if the sentence is true in a restricted domain, then it is also true in the unrestricted domain. However, by syntactic parallelism, if no restriction is required here, then no restriction is mandatory in the occurrence of (1) either. Stanley and Szabó argue that, if Bach were right, there should be no change in the truth conditions of (8) if there is a restriction in the domain. But this is not generally so, according to them. They imagine the following situation (I am adapting their original example): suppose that there are only two brands of beer available in the house, Guinness and Becks, and that I strongly dislike Guinness and like only Becks. Suppose that, being thirsty and wanting to have a Becks, you ask your friend whether there is any beer in the house. There is only a bottle of Guinness on the table, and so he utters (8). In this case, they claim, (8) is intuitively false, and this is so, according to them, because (8) quantifies over a restricted domain, namely, the bottles of Becks. I find this counter-argument very implausible, since it is far from clear

that (8) is really false in the imagined situation. Maybe all that I can appeal to here is a different intuition about the truth-value of (8). But a dubious intuition is all that Stanley and Szabó are offering here anyway.

The second argument (based on a strategy employed by Partee (1984)) is more elaborate. Here Stanley and Szabó try to provide syntactic evidence, based on the ordinary use and understanding of quantified sentences within quantified contexts, for the existence of variables that are not perceivable in its grammatical form, but present in its deep logical form. These variables take, in each context, a quantifier domain as value, being therefore responsible for the phenomenon of quantifier domain restriction. The argument relies heavily on what Stanley elsewhere (2000) calls the “Binding Assumption”. The Assumption is formulated in terms of the notion of *binding*, i.e., a quantifier α binds an expression β iff the interpretation of β systematically changes with the values of the variable introduced by α .⁸ Roughly speaking, Stanley’s Binding Assumption is that, if α and β are in the same clause, and α binds β , this can only be explained if β is identical to or contains a variable that is common to both α and β , and that is bound by the former. Here are some relevant examples considered by Stanley and Szabó:

- (9) In most of John’s classes, he fails exactly three students
- (10) In every room of John’s house, every bottle is in the corner

⁸ Actually Stanley formulates the Binding Assumption in a slightly different way.

If the pragmatic approach were right, the second sentence both in (9) and in (10) would quantify over an unrestricted domain, and the second quantifier ('every room of John's house') would leave this domain untouched. But this does not correspond to the intuitive reading of (9) and (10). The intuitive reading of (9) is that in most of John's classes x , he fails exactly three students in x , i.e., the second sentence has different domains given by the values of the variable introduced with the second quantifier. Similarly, in (10), 'every bottle' intuitively has different domains, and these are the sets of bottles in each room of John's house, that is to say, the intuitive reading of (10) is that in every room x of John's house, every bottle of x is in the corner. Under the pragmatic approach, these intuitive readings are not allowed, and, according to Stanley and Szabó, it is not clear that (9) and (10) have a coherent reading at all, since the second quantifier would presumably ignore the embedded sentence (or, to put it in a different way, the first quantifier would ignore the values of the variable of the second). There could be no binding if there were no hidden variable present in the first quantifier to be bound by the second. They conclude that cases like (9) and (10) represent an insurmountable problem for the pragmatic approach. The semantic approach, on the other hand, has no such problem since it postulates a domain variable in the first quantifier (which is bound by the second quantifier).

Therefore, by a mixture of argument from exclusion and of inference to the best explanation, the only plausible remaining candidate seems to be the semantic approach. Of course one thing is to argue for the superiority of the semantic approach by pointing out weaknesses and deficiencies of the rival approaches. Quite another thing is to develop the details of such an approach. This is what they do with great skill and elegance in the final part of their paper. There are many details to be filled in like, e.g., whether the domain variable occurs in the language or in the metalanguage and,

if in the language (as they believe), were exactly in the syntactic tree of the sentence it appears. In what follows, I shall not discuss the details of their positive approach. What I want to point out is that their negative arguments (against the rival approaches) are, at best, inconclusive.

IV. PROBLEMS WITH STANLEY AND SZABÓ'S ARGUMENTS

As we saw, Stanley and Szabó's main complaint regarding the syntactic ellipsis approach is that it suffers from underdetermination: there are many equally adequate expressions that could complete the original one. We could express this using the diagram from Section II: the context leaves underdetermined which one of many equally adequate candidates to Exp.2 would be the one that replaces Exp.1. Reimer formulates this same point in the following way:

[H]ow is the advocate of the [grammatical] approach to account for the intuition that utterances of sentences containing incomplete definite descriptions are capable of expressing determinate propositions? More generally, how is such an advocate to account for the intuition that utterances of sentences containing incomplete quantifier expressions are capable of expressing such propositions? (Reimer 1998, p. 113.)

Here is a possible *ad hominem* counter-argument: there is no more reason to be dissatisfied with underdetermination of contextually given expressions than there is to be dissatisfied about, for example, the underdetermination of *demonstrata* in the case of demonstratives. If I point at a certain object in a certain context and say 'this is beautiful', there might be some underdetermination as to whether I am referring to the design, or the material, or the color, or the combination of shape and color, etc. Virtually anyone acknowledges that, but I am not aware of anyone who takes this as a reason for rejecting, e.g., Kaplan's theory of demonstratives. If under-

determination is not a reason to see the theory of demonstratives as fundamentally wrong, why should it be a reason to reject the syntactic ellipsis approach?⁹

But there is another possible defense of the syntactic ellipsis approach: why should we expect from it that each context must determine a unique completing expression? Why not accept that each context might determine a class of equivalent (i.e., coextensional) expressions? We could perfectly well accept that the contextual contribution to a quantifier $[\Delta x:\Phi x]$ is not just one single expression Ψx but a class of equivalent expressions $\{\Psi_1 x, \Psi_2 x, \dots\}$. They are equivalent in the sense that all quantifiers $[\Delta x:\Phi x \& \Psi_i x]$ have the same domain. This idea is a generalization of Blackburn's (1988) proposal for reconciling the syntactic ellipsis approach of incomplete definite descriptions with indeterminacy. The proposal is, in a way, a refinement of Sellars' reply against Strawson already mentioned, and is inspired by Russell's view about the relation between an ordinary proper name and definite descriptions¹⁰. Russell famously holds the thesis that an ordinary proper name is an abbreviation of a definite description, but also notices that there might be more than one definite description that the name abbreviates. E.g., 'Aristotle' might equally well be seen as short for 'the teacher of Alexander' or 'the author of the *Nicomachean Ethics*', or 'Plato's most famous student', etc. However according to Russell, they are all equally admissible as long as the object denoted by each description remains

⁹ Stanley and Szabó's own account (which sees a property as the contextually given value to implicit variables) suffers from the same indeterminacy. For there are several co-extensional properties that might be the contextually given value to the implicit variables.

¹⁰ Russell (1912, p. 30). Perhaps the same idea can be traced back to Frege (1892). In a famous footnote, he mentions the fluctuation of senses attached to a proper name and remarks that "[s]o long as the *Bedeutung* remains the same, such fluctuations of sense may be tolerated" (p. 153).

the same. Blackburn suggests that the same can hold for incomplete definite descriptions placed in a context, i.e., although there might be no single particular complete definite descriptions that can be seen as the unique candidate for the expanded form of an incomplete description in a particular context, there might be a class of equivalent (i.e., co-extensional) complete descriptions. E.g., ‘the table’ in a certain context, can have any of the expanded forms ‘the table in room 320-B of IFCS’, ‘the table in front of Arno on June 23, 2009, 10:00 am’, etc.

If we generalize (as I think we can) this suggestion to all quantifiers, this gives us a strengthened version of the syntactic ellipsis approach: a quantifier such as ‘every beer’ can be seen, in a particular context, as an elliptical form for any member of a class of quantifiers with the same domain, and this class is, so to speak, the contribution that context gives for (incomplete) quantified utterances. This reply seems to undermine Stanley and Szabó’s main reason for rejecting the syntactic ellipsis approach. A possible worry about this reply is whether it places excessive hope on the replacement of incomplete definite descriptions by complete ones, since it might be the case that the latter must contain indexicals and, hence, its semantic value must be supplied by the context anyway. In the examples that accompany Sellars’ original proposal, all complete definite descriptions contain indexicals (‘over there’, ‘me’, etc.), and hence one might wonder whether this explanation of quantifier domain restriction really restricts the role played by the context to a purely grammatical level. It is not really clear that the expanded definite description must necessarily contain an indexical. At any rate, if we were to accept that the expanded quantifier always contains indexicals, we should then recognize two quite distinct roles played by the context in quantifier domain restriction: one at a purely linguistic level (i.e., that of expanding the incomplete quantifier into a complete one (or a class of complete quantifiers)),

and that of saturating an indexical present in the expanded quantifier. But there is nothing distinctive about this second role except the saturation of ordinary indexicals ('over there', 'here', 'now', 'you', etc.), i.e., we do not need to assume (as Stanley and Szabó end up doing) that each quantifier carries a specific variable whose values are domains to be supplied by the context. In other words, even if we admit that the complete quantifier must have indexicals whose value must be contextually supplied, this does not undermine the syntactic ellipsis approach and does not force us to recognize anything like the contextual attribution of value to a domain variable.

Another possible worry about this reply is whether the proposal behind it could work if we do not have a previous determination of domains so that the equivalence classes of complete quantifiers can be given in context. (After all, the classes are of *coextensional* complete quantifiers.) And if the domain must be given first, it might seem that we end up with a version of the semantic approach after all. But notice that we are following Stanley and Szabó and restricting our discussion to the descriptive question. In other words, we are not required to answer why this and not another class of expressions is adequate in a context. We only have to say what the appropriate contextual contribution for a quantifier is, but not in virtue of what. (This would require an incursion into the foundational question which we are bypassing, following Stanley and Szabó.)

But, as I see it, the most serious worry for Stanley and Szabó's strategy is in their argument against the pragmatic approach. As Cappelen and Lepore (2005) and Cappelen and Hawthorne (2007) argue, the strategy of finding hidden variables *via* the Binding Assumption can easily lead to some absurd conclusions, i.e., one might end up finding not only domain variables, but all sorts of

variables everywhere, even in sentences where there should, in principle, be no variables. Consider the following examples:

(11) Everywhere Mary goes, $2+2=4$

(12) Every time Mary thinks about it, $2+2=4$

It seems that (11) has a natural reading, i.e., that it $2+2=4$ continues to be true wherever Mary goes or every time she thinks about it. (Suppose that, for some reason, Mary is unhappy about the arithmetic that she has learned in her elementary math class, and keeps moving from school to school hoping that someone else might teach her a different arithmetic, but she keeps hearing the same story about $2+2$ being 4). (12) has an analogous reading. Now, if the argument based on binding reveals hidden domain variables for quantifiers, it should reveal the presence of a variable for location (from (11)) and of a variable for time (from (12)) in $2+2=4$, which is absurd, for there are no location nor temporal variables in a sentence of arithmetic. The example can be multiplied. The conclusion is that the argument based on the Binding Assumption gives us too much, i.e., it reveals the presence of variables even where there should not (at least intuitively) be variables.¹¹

I don't think that Stanley and Szabó's attack on the pragmatic model, considered globally, is quite successful. Their remark that the pragmatic view requires us to give up our intuitions regarding the

¹¹ Recanati (2002) criticizes the argument on another basis. According to him, although it might be the case that α binds a variable present in β in the above contexts, there is no reason to suppose that β in isolation has that variable. It could be that β is what Recanati calls a "variadic function", i.e., a function that has its arity fixed in a context depending on the expression that precedes it. I find this criticism implausible. It seems to me that the syntactic form of β (its arity) must remain the same, no matter the context.

truth of quantified sentences and that “[t]his is worrisome because accounting for our ordinary judgments about the truth-conditions of various sentences is the central aim of semantics” seems very questionable. For one thing, it is highly controversial that a central task of semantics is to account for our intuitions regarding truth or falsity of sentences. As Bach remarks in his reply to Stanley and Szabó, “I should have thought that the central aim of semantics is to account for semantic facts” (Bach 2000, p.267). On the other hand, one could in principle hold on to the pragmatic view without doing violence to our intuitions simply by insisting on the difference between the proposition (or content) semantically expressed by a sentence (or by an utterance) in a context and the proposition (or content) that is communicated in that context. One can certainly communicate a true proposition by expressing a false one (as it is, e.g., in irony), provided that pragmatic mechanisms are operating properly. As Cappelen and Lepore rightly insist, there is a multiplicity of things that can be said with the same proposition that is semantically expressed in all sorts of contexts.

There seems to be an enormous difficulty in perspicuously specifying what exactly are the semantic mechanisms by means of which a quantifier gets its domain in a certain context. Maybe this is the reason for the fact that, as far as I know, no one has provided such a theory so far. Even Stanley, Szabó (and Reimer) leave the foundational question out of their discussion. This is in sharp contrast, e.g., with Kaplan’s theory of the contextual dependence of the meaning of indexicals: his discussion of the semantics of demonstratives involves the explanation of how they get their reference in a context (i.e., by means of demonstrations (in Kaplan 1989), and by means of the speaker’s intention (in Kaplan 1989a)). One might even wonder whether such a theory is actually possible in the case of quantifier domains since, in contrast to the case of indexicals, the contextual elements that might play a role here are

exceedingly multiple and changeable. Here is an example (taken from Gauker (1997)) to illustrate how complex and unpredictable the contextual determination of quantifier domain might be: suppose that a teacher in front of the students in his class utters

(13) Everyone is present today

He probably means that everyone who has been attending class regularly is present. Now suppose he says

(14) Not everyone is present today

Here he probably means that not everyone enrolled in the class is present that day. But what we have in (14) is simply the denial of the same sentence appearing in (13); if semantics alone were responsible for domain restriction, we should have the same domain both in (13) and in (14).

Since Stanley and Szabó's attempt to show the superiority of their favored approach (the semantic one) by pointing out some apparently insurmountable difficulties faced by the main alternatives, and since, as I have argued, these difficulties are not insurmountable at all and the main argumentative strategy (*via* the Binding Assumption) against one of the rival approaches (the pragmatic) seems to lead to some intolerable consequences for their own approach, I conclude that Stanley and Szabó's defense of the semantic approach is not conclusive at all.

I shall restrict my conclusion in this paper to this more limited thesis. But I ultimately find that none of the available positions reviewed by Stanley and Szabó (including their own) is quite satisfactory, and that a more reasonable approach to quantifier domain restriction is needed, perhaps one based somehow on the speaker's intention along the lines of the Gricean theory of non-

natural meaning. But I will leave the development of such a view for another occasion.

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