Perspectival biscuits[*]

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Abstract This paper describes a novel class of biscuit conditional, the 'perspectival biscuit', which arises when an *if*-clause containing a generic pronoun (e.g., generic *you*) is used to shift perspective for the interpretation of a perspective-sensitive item in the consequent: e.g., fixing the directionality of *behind* in "If you're at the door, the cat is behind the desk." This sentence is like a biscuit conditional in that it entails a fully-specified, propositionally stable consequent describing the spatial configuration of cat and desk, but this reading vanishes in favor of a conditional dependence reading when the antecedent contains any non-generic DP, a prediction that is not straightforwardly accounted for by existing theories of biscuit conditionals. An analysis is given demonstrating that biscuithood for perspectival biscuits arises due to generic quantification exclusively over individuals, not worlds.

Keywords: biscuit conditionals, genericity, generic *you*, perspective, spatial language

1 Introduction

In this work, we describe a novel class of biscuit conditional we call the *perspectival biscuit* (PB). Perspectival biscuits are characterized by three features: (i) a *generic pronoun* (i.e., impersonal *you* or *one*) in the *if*-clause or antecedent; (ii) a *perspective-sensitive item* in the main clause or consequent; and (iii) entailment of a fully-specified, stable consequent proposition. PBs have the discourse effect of shifting perspective in the main clause. For instance:

(1)   If $\underbrace{\text{you}_{\text{GEN}} \text{ are at the door}}_{\text{antecedent}}$, $\underbrace{\text{the cat is behind the desk}}_{\text{consequent}}$.
    ≈ *'The cat is behind the desk, from the point of view of the door.'*
                                                                    (biscuit reading)

In isolation, the prepositional phrase *behind the desk* is underspecified with respect to frame of reference. But in (1), the directionality of *behind* is determined using a perspective originating from the door, as illustrated in Figure 1.

Figure 1   Illustration of (1). In isolation, the PP *behind the desk* is underspecified with respect to frame of reference.

What makes (1) a *biscuit* conditional? The defining feature of biscuit conditionals is that they generally entail their consequent, with the antecedent serving only to suggest discourse relevance:

(2)   a. If you're curious, our talk is Sunday at 11:40am.
       b. There are biscuits on the sideboard if you want them.   (Austin 1956)
          consequent   antecedent

This stands in contrast to *hypothetical* conditionals, which express a conditional dependence. Hypothetical conditionals only entail their consequent when the antecedent is true:

(3)   If Arnold went shopping, there are biscuits on the sideboard.

Biscuithood is defeasible. Sentences described as biscuit conditionals typically have *possible* hypothetical readings as well, though they are often somewhat implausible and require some creative contexts to make apparent:

(4)   a. *Context: the scheduling of talks at a conference is ordered by the level of participants' curiosity. The final slot is Sunday at 11:40am, and to finalize the ordering, we need your input.*
         If you're curious, (then[1]) our talk is Sunday at 11:40am.   (hyp. reading)
       b. *Context: sideboard magically produces food when passersby are hungry.*
         There are biscuits on the sideboard if you want them.   (hyp. reading)

What makes perspectival biscuits special? Biscuit readings for PBs only seem to arise with a generic pronoun (i.e., you_{GEN} or one_{GEN}) in the antecedent. With non-generic DPs in minimally different sentences, the biscuit reading disappears in favor of a hypothetical reading:

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1 Biscuit conditionals typically resist *then*; which often "forces" a hypothetical reading (Iatridou 1994). However, the reliability of this diagnostic has been challenged by Zakkou (2017), among others.

(5)   If {you$_{2\text{SG}}$/Bob/someone/no one} are/is at the door, the cat is behind the desk.
        ≈ *'When one is present at the door, the cat hides behind the desk.'*
            (*Perhaps the cat is shy.*)   (hyp. reading)

The absence of a generic pronoun does not have an effect on the biscuithood of more conventional biscuit conditionals like (2a) and (2b):

(6)   a. If <u>your advisor</u> is curious, our talk is Sunday at 11:40am.   (biscuit)
        b. There are biscuits on the sideboard if <u>Caroline</u> wants them.   (biscuit)

This puzzle can be summarized as the following complimentary pattern of readings:

   • (**G–B**) Generic pronouns lead to perspective-shifting biscuit readings (PB).

   • (**NG–H**) Non-generic DPs lead to hypothetical readings.

Why do PBs only arise with generic pronouns? We claim that the perspectival biscuit reading arises because the generic pronoun in the antecedent licenses generic quantification exclusively over *individuals*, not situations. Most prior accounts of biscuit conditionals work with standalone antecedent and consequent propositions. Instead, we analyze PBs as a conditional paraphrase of a single generically quantified expression, as in this example modified from Krifka, Pelletier, Carlson, Ter Meulen, Chierchia & Link (1995):

(7)   a. Mary smokes after dinner.

        b. If it's after dinner, Mary smokes.

        c. [GEN $s, x : x = $ Mary $\wedge$ it's after dinner in s] x smokes in s.

Like (7c), the material in the *if*-clause acts as an explicit restrictor, but unlike (7c), it does so only for (perspective-holding) individuals, not situations:

(8)   [GEN x: x is at the door] the cat is behind(x) the desk.

    The rest of the paper is organized as follows. In Section 2, we present some background on the semantics of perspective, biscuit conditionals, and generic pronouns. In Section 3, we review some prior accounts of biscuit conditionals and examine their predictions for PBs. In Section 4, we present our own analysis of PBs, which treat a PB as a single generically quantified expression. In Section 5, we discuss some remaining issues and conclude.

2   Empirical description

PBs shift perspective for perspective-sensitive items in the consequent. To give a useful characterization of this perspective shifting behavior, we must first discuss how to account for perspective in a formal semantics.

2.1 The semantics of perspective

The meaning of some expressions are dependent upon choosing a perspective for a truth value. Following Bylinina, McCready & Sudo (2015), we call words and phrases that trigger this dependence *perspective-sensitive items* (henceforth PSIs). Under their definition, PSIs are lexical items whose meaning is dependent on a perspective center (a.k.a. *perspective holder*), and meet the following criteria:

(i) **Default speaker orientation**:
In default environments, the perspective holder is the speaker.

(ii) **Shiftability**:
In certain environments, the perspective holder can shift to other entities (e.g., addressee, attitude holder, salient discourse entity, etc.)

A wide variety of expressions are considered PSIs under this definition, including, but not limited to spatial prepositions (e.g., *behind*, *in front of*, *left*, *right*, *near*), location-sensitive predicates (e.g., *local*, *foreigner*), predicates of personal taste (e.g., *tasty*, *fun*, *expensive*), and many more[2]. This definition is meant to omit other context-sensitive expressions, such as indexicals like *I* and *here*, whose meaning do not shift[3] but remain tied to the speaker and context of utterance (Kaplan 1989).

How is perspective captured in the semantics? To simplify matters, we assume an implicit perspective holder argument for PSIs. Prior analyses of perspectival expressions vary in how this argument is filled, or whether it should exist at all. Lasersohn (2005) proposes adding a *judge* parameter to the circumstance of evaluation to explain "faultless disagreement" in evaluating predicates of personal taste, an approach that has been influential. Others have argued against a judge parameter, such as Pearson (2013), who maintains a dedicated perspective holder argument but assigns it its value with a generic operator ranging over entities the speaker identifies with. Coppock (2018) dispenses with a dedicated slot altogether but augments possible worlds with *outlooks* which are able to settle matters of opinion in addition to matters of fact. For our purposes, it is useful to assume a perspective holder argument, insofar as it is a variable able to be bound by a quantifier.

Under this assumption, ostensibly two-place predicates like $behind(x, y)$ are given a three-place denotation like the following:

(9) $[\![behind]\!]^{g,c} = \lambda z.\lambda y.\lambda x.$ x is behind y from z's perspective[4]

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2 See Anderson (2020), Ch. 3 for a comprehensive overview of phenomena described as perspectival.

3 Setting aside shifty indexicals (Anand 2006; Deal 2020), which are still not quite as freely shiftable as PSIs.

4 A fully compositional account of how the perspective holder variable alters the directional component of the meaning of spatial prepositions like *behind* is given by Mulligan & Rawlins (2022) using

In unmodified contexts, the perspective holder argument can be determined *contextually* via the assignment function g, in a process analogous to anaphora resolution:

(10) $g = [1 \rightarrow c_{\text{speaker}},\ 2 \rightarrow c_{\text{addressee}},\ 5 \rightarrow \text{Bob}]$

Normally, this is done implicitly, but a perspective holder z can be made explicit with adjuncts like *from (z)'s perspective* or *to (z)* for many taste predicates:

(11)   a. The cat is behind the desk from your$_{2\text{SG}}$ perspective.   (PH: $c_{\text{addressee}}$)

b. Roller coasters are fun to Dimitri .   (PH: Dimitri)

Note that making the perspective holder argument overt using an explicit adjunct is not the same as shifting perspective using a PB. Making the perspective holder overt just helps *fully-specify* the proposition (i.e., make it truth-evaluable). The following examples are *not* PBs, as the *if*-clauses plays no role in *shifting* perspective and the sentences retain a predominantly hypothetical interpretation.

(12)   a. If you$_{2\text{SG}}$'re at the door, the cat is behind the desk from your$_{2\text{SG}}$ perspective.
(PH: $c_{\text{addressee}}$; hyp. reading)

b. If Bob is at the door, the cat is behind the desk from your$_{2\text{SG}}$ perspective.
(PH: $c_{\text{addressee}}$; hyp. reading)

2.2   Biscuit conditionals

We now give a brief overview of biscuit conditionals, a catch-all term for sentences of conditional form but non-hypothetical character. Such utterances are regularly encountered and understood in discourse, yet a precise definition for biscuits is tricky. Ostensibly, the hallmark property of biscuit conditionals is *consequent entailment* (CE): biscuit conditionals entail their consequent, regardless of the truth of their antecedent. For instance, in an utterance of Austin's classic example (2b), even in situations in which the addressee doesn't want biscuits, the speaker nevertheless asserts that there are biscuits on the sideboard. The same cannot be said of the consequents of hypothetical conditionals.

However, CE is neither a necessary nor sufficient condition for biscuit conditionals (Rawlins 2020). There exist other constructions, such as unconditionals (Rawlins 2008) and concessives (König 1986) which exhibit CE, but arrive at this inference via exhaustively quantifying over antecedents.

(13)   a. Whether Alfonso comes to the party or not, it will be fun. (Rawlins 2008)

b. (Even) if the bridge were standing I would not cross.   (Bennett 1982)

Vector Space Semantics (Zwarts 1997; Zwarts & Winter 2000).

Meanwhile, there exist constructions that seem decidedly biscuit-like in terms of their role in discourse, but have no or undefined CE, such as these conditionals with non-declarative (14a) or outright false consequents (14b):

(14)   a. If I don't see you before then, have a nice weekend. (Davison 1979)

         b. If they ask you how old you are, you're four. (Siegel 2006)

CE is difficult to evaluate in the case of PBs. Their consequent contains a perspective-sensitive item, which, evaluated without context, contains a free perspective holder variable. With such a free variable, the truth conditions of the consequent proposition are not stable. However, we claim that there is a non-perspectival variant of the meaning of the PSI that is still entailed in a PB. For the directional preposition *behind* in (1), it is the proposition that there exists a particular stable arrangement in space between the cat and the desk. This proposition is not dependent on a particular perspective holder. In fact, it is truth-conditionally equivalent to the following proposition using the antonymous PSI *in front of* with a different perspective holder, illustrated using the same scene in Figure 1:

(15)   The cat is in front of the desk (from your$_{\text{2SG}}$/the scene viewer's perspective).

What is unconditionally conveyed by a PB is exactly the stable propositional content shared by (15) and (1): the spatial relationship between the objects, relative to the same situation of evaluation.

Going forward, for PBs, we adopt a version of a more general, dynamic notion of CE proposed by Rawlins (2020). For our purposes, "contextual update" means dynamically adding a proposition to the discourse context; and "fully-specified" means saturating a PSI-containing proposition so it is no longer perspective-dependent, capturing the stable spatial meaning shared by (1) and (15).

(16)   (CE′) Biscuit conditionals entail a contextual update of a fully-specified, stable proposition derived from the consequent.   (after Rawlins 2020 (E1′))

This revised, more flexible notion of CE allows us to both more accurately circumscribe the behavior of PBs and make connections to dynamic accounts of biscuit conditionals such as that of Biezma & Goebel (2023). In Section 3, we will explore this account of biscuit conditionals and several others in greater depth.

2.3   Generic pronouns

We now turn to some background on the apparent secret ingredient in PBs: generic pronouns like *one*$_{\text{GEN}}$ and *you*$_{\text{GEN}}$[5] in the antecedent. Here are some examples of

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5 For the purposes of this work, generic *you* is essentially interchangeable with generic *one*, but we will mostly stick with generic *you* for judgments due to its familiarity in the dialect of the authors.

generic *you*:

(17)   a. You$_{\text{GEN}}$ never know what the weather will be like a month out from now.

         b. It's important to brush your$_{\text{GEN}}$ teeth.

The analysis of the generic or impersonal pronouns has received surprisingly little attention in the formal semantics literature, compared to two phenomena classically described as generic by Krifka et al. (1995): *kind-referring predicates*, like the non-referential DP *beavers* in (18a); and *characterizing sentences*, like (18b).

(18)   a. Beavers build dams.   (kind genericity)

         b. Dave takes the 6 o'clock train home.   (characterizing genericity)

Both types of generics are typically handled with some type of *generic operator*, usually written as GEN. As a non-selective quantifier, GEN can account for both types of phenomena (Carlson 1989):

Under this approach, kind-referring predicates have a bound *entity* argument, while characterizing sentences (additionally) have a bound *situation* argument. GEN is usually decomposed as a universal quantifier with a contextual restriction function (C), used to account for exceptions. For (19c), C might restrict the relevant domain of situations to those in which it is a normal weekday, in which Dave does not have any events or obligations after work, etc.

(19)   a. [GEN x: beaver(x)] build-dams(x)

         b. [GEN x, s: $x =$ Dave in s] takes-6pm-train(x) in s

         c. = [$\forall x, s$: $x =$ Dave $\wedge$ $C(x,s)$ in s] takes-6pm-train(x) in s

2.3.1   The semantics of generic *one*

To our knowledge, the most complete formal analysis of English impersonal pronouns comes from Moltmann (2006, 2010). Generic *one* can also be captured using an operator like GEN over *entities*, or individuals. According to Moltmann, expressions containing generic pronouns also involve *generic simulation*, a kind of inference from the first person. Generic simulation is useful for analyzing PSIs, appearing in an analysis of predicate of personal taste *tasty* given by Pearson (2013). In it, Pearson uses a predicate-internal generic quantifier which ranges over individuals the speaker can identify with. In our analysis, we will borrow from Pearson (2013) the *identification relation I*, in turn inspired by Moltmann:

(20) $I(c_{\text{speaker}}, x)$ ("the speaker identifies with x")

In generic quantification, I appears as an additional contextual stipulation alongside C in the restrictor. This captures the intuition that perspective-taking is a kind of generalization from first-person experience.

2.3.2 The distribution of generic *one*

Generic *one* (and generic *you*) cannot appear just anywhere. Because its appearance assumes quantification under an operator, generic *one* is strange in simple, non-quantificational environments, but are more felicitous in modalized contexts (Moltmann 2006):

(21) a. #One puts away the dishes.

   b. #One misses the bus.

   c. #One has a nose.   (Moltmann 2006)

(22) a. One must put away the dishes.   (deontic necessity)

   b. One occasionally misses the bus.   (frequency adverb)

   c. If one has a nose, one can breathe.   (antecedent of conditional)

As such, it is unclear what the meaning of a proposition containing a free instance of a generic pronoun is. Although sentences like those in (21) can be paraphrased with phrases like *someone*, *people*, or *the typical person*, as Moltmann observes, these come with additional presuppositions and inferences that are not present with the generic pronoun:

(23) a. Someone puts away the dishes.

   b. People miss the bus.

   c. The typical person has a nose.   (Moltmann 2006)

As we will see ahead, the problems with generic pronouns in unquantified contexts make it difficult to assess biscuithood when the antecedent is treated as a standalone proposition:

(24)   #You$_{\text{GEN}}$ are at the door.

3 Prior analyses of biscuit conditionals

We now look to prior analyses of biscuit conditionals to see what predictions they make for PBs. Most accounts of biscuit conditionals fall into one of two general families of strategies (see Rawlins 2020 for a more extended overview): *speech act conditional* accounts, which argue that *if*-clauses in biscuits attach at a syntactically higher level than hypothetical conditionals, interacting at the level of speech acts (Davison 1979; Iatridou 1991; Siegel 2006) or topicality (Ebert, Ebert & Hinterwimmer 2014); or *pragmatic inference* accounts, which derive CE in biscuits by reasoning pragmatically about *epistemic independence*, or when the truth conditions of the antecedent and consequent are thought to be logically independent (Franke 2007, 2009). We will consider each of these families in turn.

3.1 Speech act conditionals

The main idea common to these accounts is that the antecedent in biscuit conditionals is supplying a condition on something other than the possible worlds in which the consequent is true. For Davison (1979), that condition is an *appropriateness condition* on the "well-formedness of a speech act [of the consequent]". For instance, the biscuit interpretation of (2a) can be paraphrased as follows:

(25)   ≈ *'If you're curious, an utterance of "Our talk is Sunday at 11:40am" is appropriate in this context.'*

This idea is instantiated in a syntactic proposal by Iatridou (1991), in which speech act-modifying *if*-clauses scope higher than hypothetical *if*-clauses. Building on this treatment, Siegel (2006) treats biscuit *if*-clauses as quantifying over potential literal acts, with relevance contextually restricted.

For PBs, the idea that *if*-clauses restrict at the speech act level is attractive, particularly if one assumes a dedicated syntactic position for perspective holders (Speas & Tenny 2003). It is possible that the perspective-shifting *if*-clause for PBs may attach at a level different from that for hypotheticals. But this level is perhaps different from that of speech acts, too:

(26)   a.   If you're curious, if you're at the door, the cat is behind the desk.

(biscuit + PB)

b. #? If you're at the door, if you're curious, the cat is behind the desk.

From this data, we see that PBs can co-occur with normal (relevance)-based biscuit antecedents, but not in arbitrary orders, perhaps suggesting a distinct mechanism. A further limitation of this approach is that there are no specific compositional predictions about which component of the consequent proposition is targeted, since the speech acts over the consequent are taken as atomic. And lastly, there are no specific predictions about the role of the generic, the central issue in our puzzle.

3.2 Pragmatic inference

Pragmatic accounts, by contrast, treat biscuit and hypothetical conditionals as syntactically equivalent; distinct readings emerge via pragmatic reasoning about independence of the antecedent and consequent (Franke 2007), a notion equivalent to Lewis's (1988) orthogonality of subject matters. Two propositions p, q are *epistemically independent* if, relative to an agent's epistemic state, settling the truth of p gives you no information toward settling the truth of q. Formally:

(27)   A proposition x is *epistemically possible* ($\Diamond_A$) relative to an agent A's epistemic state E_A iff $x \cap E_A \neq \emptyset$.

(28)   Two propositions p and q are *epistemically independent* for agent *A* iff, for all combinations of issues $P \in \{p, \neg p\}, Q \in \{q, \neg q\}$:
if $\Diamond_A P \wedge \Diamond_A Q$, then $\Diamond_A (P \cap Q)$.

Franke shows that, assuming antecedent *p* is at least epistemically possible, consequent entailment (of *q*) follows logically from epistemic independence, since the semantics of the conditional rule out a state in which $(p \cap \neg q)$ and the only remaining logical possibilities are those in which *q*.

Goebel (2017) and Biezma & Goebel (2023) extend this approach to a more predictive version of independence, *factual independence*, by taking into account law-like dependencies (Veltman 2005) in addition to epistemic states to handle *factual conditionals*, where the antecedent is a proposition both interlocutors already take for granted.

3.2.1   Chimerical conditionals

Of the pragmatic accounts, PBs perhaps most resemble *chimerical conditionals* (Francez 2015), which are conditionals which have simultaneous hypothetical and biscuit interpretations. For example:

(29)   If you are going to Barcelona, I know a local tailor.   (Francez 2015)

a. If you are going to Barcelona, I know a local tailor there.   (biscuit)

b. If you are going to Barcelona, I know a tailor local to your destination.

(hyp.)

Francez claims that this ambiguity in readings arises when there are possibly distinct interpretations for a (potentially implicit) context-sensitive argument in the consequent (e.g., the location parameter for *local*). When the argument is a *rigid designator* (local to Barcelona), the antecedent and consequent can be shown to be epistemically independent, giving rise to a biscuit reading. When the argument is an *individual concept* or variable (local, relative to some location), dependence cannot be ruled out, giving rise to a hypothetical.

Are PBs chimerical conditionals? PBs appear to fit the bill. There is a context-sensitive (perspective-sensitive) item in the consequent, leading to multiple potential fully-specified propositions for the consequent. Furthermore, when the perspective holder is a bound variable, the account correctly predicts a hypothetical reading for some non-generic DPs as in (5).

So far, we have characterized the puzzle as generic pronouns leading to perspective-shifting biscuit readings (**G–B**), with non-generic DPs leading to hypothetical readings (**NG–H**). But these are only the most prominent readings. In fact, the full space of possibilities are in principle possible. There is also (**NG–B**): non-generic DPs can

lead to biscuit-like "perspectival" readings when the DP in the antecedent co-occurs as the perspective holder in the consequent:

(30)   If Bob is at the door, the cat is behind the desk (from Bob's perspective).

(biscuit)

In addition, we have (**G–H**): the generic pronoun can also appear in hypothetical readings.

(31)   If you$_{\text{GEN}}$ are at the door, the cat is behind the desk.
        ≈ *'When an arbitrary person is present at the door, the cat hides behind the desk.'* (compatible with various perspective holders)   (hyp.)

The (**NG–B**) reading is biscuit-like in that it does not communicate a logical dependence, but rather emphasizes a particular (non-generic) person's perspective; it does not, strictly speaking, *shift* perspective as does the canonical PB reading, (**G–B**). This (**NG–B**) reading may be derived by the Franecz account for chimericals on the basis of epistemic independence. For instance, an agent's knowledge of the world (say, a context in which the cat in question is known to be indifferent) may rule out the hypothetical reading (**NG–H**) when the consequent contains a rigid designator. Reasoning about independence may be unintuitive in the case of $\neg p \cap q$ (negated antecedent), but it is possible.

However, chimericity alone does not explain differences observed with generic pronoun. The (**G–H**) reading is *not* straightforwardly predicted by any of the independence-based accounts. Nor is the primary PB reading, (**G–B**). To account for these readings, we propose an analysis in which the unique properties of generic quantification play a central role.

4   Our analysis

We have seen that accounts which take antecedent and consequent propositions as atomic are problematic for PBs. In the antecedent, the meaning of the unmodalized generic *you* in PBs cannot be coerced into a stable proposition equivalent to those produced by similar quantified expressions like *someone* or *anyone*. In the consequent, the PSI contains a potentially free perspective holder variable (though this half of the problem can be resolved by making the argument explicit, as done by Francez in his analysis of chimerical conditionals). Instead, rather than treat PBs as a function of two separate, fully-specified propositions, we propose that PBs are better understood as a single, generically quantified expression.

In a standard tripartite structure for quantifiers, a quantified expression has the following form:

(32)   [OPERATOR : RESTRICTOR] SCOPE

As observed by Partee (1995), quantified sentences that can be analyzed with this form can often be re-expressed in terms of a conditional. The generic quantifier GEN is no exception, working for genericity of kinds and genericity of characterizing sentences alike:

(33)   a. Beavers build dams.   (repeated (18a))

         b. [GEN x: beaver(x)] build-dams(x)   (repeated (19a))

         c. ≈ *'If something is a beaver, it builds dams.'*

(34)   (repeated (7), from Krifka et al. 1995):

         a. Mary smokes after dinner.

         b. [GEN $s, x : x =$ Mary $\wedge$ it's after dinner in s] x smokes in s.

         c. ≈ *'If it's after dinner, Mary smokes.'*

These paraphrases follow straightforwardly from Kratzer (1981)'s thesis that *if*-clauses are nothing but the restrictors of various operators.

Given these observations, we can first attempt to analyze our main PB (1) using an analogous structure:

(35)   [GEN $s, x : x$ is at the door in s] the cat is behind(x) the desk in s.

This is a good start. Generic *you* is correctly analyzed as a variable quantified over by GEN, and that variable is bound as the perspective holder for consequent PSI *behind*. The relevant perspective is therefore provided compositionally by the antecedent, now analyzed as the restrictor for GEN.

However, this alone does not yet offer any insights into our main puzzle, why biscuit readings arise specifically in the presence of generic *you*. For this, we turn to the unique flexibility offered by generic quantification.

We claim that, because GEN is a non-selective quantifier, we have the option to analyze PB antecedents with generic *you* by quantifying *exclusively over individuals* with GEN. Therefore, a properly perspectival biscuit reading for (1) would look more like this:

(36)   [GEN $x : x$ is at the door] the cat is behind(x) the desk in s_0.

                              (where s_0 is the current situation of evaluation)
         $= [\forall x : \text{at}(x, \text{the-door}) \wedge C(x) \wedge I(c_{\text{spkr}}, x)]$ behind(the-cat, the-desk, x) in s_0.

The individual variable x used as the perspective holder can be thought of as a generic kind, where the restrictor provides the relevant domain restriction(s). The most immediately obvious restriction is the content predicated of the individual in

the antecedent, namely, the property of being at the door. This limits the domain of potential perspective holders to those located at the door. There is also the contextual restriction C, which further limits such individuals to those that are relevant for the purposes of providing a perspective. For example, C might return true only for individuals that are facing towards the object of discussion, having normal vision, etc. Lastly, there is the identification relation I, which additionally limits such individuals to those that can be related to in a first-personal way. This can mean different things for different types of PSIs; in our running example with the directional preposition *behind*, spatial perspective for arbitrary perspective holders uses a relative frame of reference, just as in egocentric (speaker-centered) situations.

When making a purely perspective-shifting claim, we should hold the state of affairs of our world to be constant; we only want to draw attention to a particular manner of describing that state. Hence, unlike for GEN in (35) which quantifies over situations s, for GEN in (36) only ranges over individuals x.

As for the hypothetical readings, they emerge the usual way: by quantifying over possible worlds or situations, as per the Lewis-Kratzer-Heim view of *if*-clauses as domain restrictors (Lewis 1975; Kratzer 1981; Heim 1982).

Summary of main readings:

- **(G–B)** Generic pronoun, biscuit reading (PB):

  (37)　[GEN x: x is at the door] the cat is behind(x) the desk.

- **(NG–H)** Non-generic pronoun, hypothetical reading (possibly chimerical):

  (38)　a. If Bob is at the door, ...
  　　　　[$\forall s$: Bob is at the door in s] the cat is behind$(g(i))$ the desk.
  　　　　(*compatible with any discourse-anaphoric perspective holder: speaker, Bob, etc.*)

  　　　b. If someone is at the door, ...
  　　　　[$\forall s$: $\exists x$: x is at the door in s] the cat is behind$(g(i))$ the desk.

Summary of possible, less-prominent readings:

- **(G–H)** Generic pronoun, hypothetical reading:

  (39)　[GEN s, x: x is at the door in s] the cat is behind(x) the desk.
  　　　(*generic entity variable optionally bound; also compatible with discourse-anaphoric perspective holders*)

- **(NG–B)** Non-generic pronoun, perspective-aligned – but not PB/perspective-shifting – biscuit reading (possibly chimerical):

(40)   [$\forall s$: Bob$_k$ is at the door in s] the cat is behind($g(k)$) the desk.
       (*special case of* (38a): *discourse-anaphoric to entity in the antecedent*)

4.1   Negation and quantification

Our quantificational analysis is able to account for various effects for PBs in negated environments, some of which are expected as biscuit conditionals, and some of which are idiosyncratic to PBs.

4.1.1   Negated antecedents

One idiosyncrasy of PBs is the fact that PBs do not seem to allow inference with negated antecedents, unlike regular biscuit conditionals.

(41)   a. ?If you$_{GEN}$'re not at the door, the cat is behind the desk.
          $\not\approx$ *'The cat is behind the desk, from the point of view of the door.'*
       b. [GEN x : $\neg(x$ is at the door)] ...

In our account, a property like *at the door* provides a restriction on the available entities which can serve as perspective holder. This works for (1) insofar as the entities at the door, contextually constrained, comprise a singular perspective for the purposes of determining the directionality of *behind*. On the other hand, the negated property *not at the door* is compatible with perspective holders in too many potential locations, and thus cannot be contextually constrained to a singular perspective, resulting in infelicity.

By this logic, any property is acceptable in the antecedent of PBs so long as it uniquely picks out a homogeneous perspective. To illustrate this point, we see that negated antecedents *can* work when the domain of possible perspective holder positions is made binary:

(42)   *Context: The door to backstage is only accessible from an alley between 1st Street and 2nd Street.*
       If you're not coming from 1st Street, backstage is to the left.
       (*I.e., you must be coming from 2nd Street.*)

Sensitivity to domain restriction further supports a quantificational account of PBs.

4.1.2   Defeasibility and negative stripping

Another kind of negation occurs when the PB inference is cancelled by additional context. Take, for instance, the following biscuit conditional from Swanson (2017), as discussed in Biezma & Goebel (2023) (parentheticals ours):

(43)   If you go swimming there'll be snacks on the other shore . . .

     a. . . . in fact there'll be snacks however you get there.   (reinforced bisc.)

     b. . . . but not if you kayak over.   (forced hyp.; cancelled CE)

The second continuation (43b) with *but* cancels the consequent entailment inference that would normally arise for (43)[6]. This use of *but not* with a separate *if*-clause can be considered an instance of *negative stripping*, which is a form of bare argument ellipsis involving *not*. For instance, with the focused DP *Francine*:

(44)   Emilio knows how to drive stick shift, but not Francine.

Such examples are commonly argued to involve clausal ellipsis, with *not* acting as a left-adjoined sentential operator (Merchant 2003):

(45)   . . . , but [$_{\text{NegP}}$ not [$_{\text{FocP}}$ Francine$_7$ [$_{\text{TP}}$ t_7 knows how to drive stick shift]]].

We assume a similar process for negative stripping with *if*-clauses, in which the second *if*-clause acts as a new restrictor for the original consequent TP. This can cancel the original PB reading in two ways: by changing the reading into a *hypothetical* one, as in (43b); or by introducing a distinct perspective. Both types of cancellation are easily handled with GEN.

Hypothetical cancellation Negative stripping can be used to cancel a PB in favor of a hypothetical reading:

(46)   If you're at the door, the cat is behind the desk, but not if you're at the door with an open can of tuna.

     a. [GEN x: x is at the door] the cat is behind(x) the desk.

     b. [GEN s, x: x is at the door with tuna in s] $\neg$ (the cat is behind(x) the desk).

    The initial *if*-clause is simply our standard (**G–B**) case, with generic quantification exclusively over individuals. In the latter *if*-clause, while the same locational property *at-the-door* occurs in the restrictor and can still contextually pick out a licit, homogeneous perspective, conjoining it with the property *with-tuna* cancels the perspectival reading. This cancellation is a case of (**G–H**): that is, involving both generic quantification over individuals and situations. For (46b), imagine that in every situation s for which *with-tuna(x)*, the cat approaches x such that there is no s in which the cat remains behind the desk.

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6 Swanson takes this to show that CE is an implicature, though Biezma & Goebel (2023) argue that the use of *in fact* and *but* are used only to correct potential misalignment of presuppositions among discourse participants, presuppositions which would contain assumptions about factual (in)dependence. For our purposes, whether or not CE is an implicature is not important.

Why does (46b) involve quantification over *s*, but not (46a)? We may invoke reasoning about factual dependence here: in the first restrictor, the only property (*at-the-door*) is a locational one, making it a plausible candidate for supplying perspective for a spatial PSI like *behind*; in the second, the additional property *with-tuna* does not provide any relevant perspectival information for any PSI in the consequent, but may presume dependence due to facts regarding cats and tuna, thus triggering a hypothetical reading involving situation quantification. As we discuss shortly in Section 4.2, the content of the restrictor must be very particular in order for the PB reading to emerge; if there are multiple competitors for QUDs introduced in the antecedent, the perspective-shifting reading is overshadowed.

Perspectival cancellation Another use of negative stripping maintains the original PB, but introduces a new PB with yet another perspective:

(47)   If you're at the door, the cat is behind the desk, but not if you're at the window.

    a. [GEN x: x is at the door] the cat is behind(x) the desk.

    b. [GEN x: x is at the window] $\neg$ (the cat is behind(x) the desk).

The syntactic process is the same as (46). The only difference is that the new restrictor here is just like the original PB restrictor in that it contains a locational property and quantifies exclusively over individuals. This is simply trading one perspective for another, with both conditionals having (**G–B**) readings; all that (47b) says is that the original consequent does not hold when the perspective holder is located at the window.

In short, negative stripping offers an alternative syntactic environment for illustrating the consequences of our quantificational account for (**G–B**) and (**G–H**) readings. The distinction between these two types of cancellation further suggest that PBs arise due to a separate mechanism from that governing conventional biscuits.

4.2   Focus and QUD

Our account of PBs is primarily a semantic one: the main divergence in readings is attributed to a difference in quantification. However, this should not be taken to imply that there are not important discourse forces at work. After all, since all four logical combinations (**G/NG**) x (**B/H**) are in principle possible, a satisfactory account must also explain why (**G–B**) and (**NG–H**) are the most prominent readings for sentences like (1) and (5). To do so, we turn to pragmatic reasoning.

One important factor is how PBs and other conditionals interact with the current question under discussion, or QUD (Roberts 1996). Biezma & Goebel (2023) state that in conditionals generally, the antecedent *if*-clause typically introduces the

question to be addressed or answered by the consequent matrix clause. Often, the question arising from the antecedent *p* can be phrased as the QUD "What do the selected worlds in which *p* is true look like?" While this question is very broad in scope, the addressee is able to infer or accommodate a more specific, discourse-anaphoric QUD as part of an effort to construe the consequent as a relevant answer (Bledin & Rawlins 2019). Because this accommodation process is dependent on contextual factors, Biezma and Goebel are able to account for the flexibility in biscuit inferences that can arise from the same *if*-clause in different contexts.

Moreover, as a general pattern for conditionals, the antecedent supplies back-grounded or *not-at-issue* content, whereas the consequent represents *at-issue* content. For PBs, the antecedent specifies which perspective to adopt, information which is usually implicit in discourse and almost never at-issue. However, PBs are an exception: after all, their main discourse function is to shift perspective.

One diagnostic for at-issue content is *prosodic focus*. Focused constituents draw attention to sets of possible alternatives (Rooth 1992), which can be used to determine the QUD. Compare these two antecedents and their focus structure:

(48)   a. If [BOB]$_F$ is at the door, …

        b. QUD: *Who* is at the door?

(49)   a. If Bob is at the [DOOR]$_F$, …

        b. QUD: *Where* is Bob?

While the former focused constituent emphasizes which individual (*who*) is at the door, the latter constituent emphasizes the relevant location (*where*). Because of this, the adopting the latter *where* QUD (49b) makes it more likely that the consequent is interpreted as an answer to a question about which perspective is being taken. This link becomes even clearer when secondary focus (lowercase 'f') is applied to the PSI in the consequent, or when uttered in a contrastive context:

(50)   If Bob is at the [DOOR]$_F$, the cat is [BEHIND]$_f$ the desk.

(51)   If Bob is at the [WINDOW]$_F$, the cat is to the [LEFT]$_f$ of the desk.

In fact, the kind of focus pattern in (50) is precisely the prosody that makes the two perspectival readings —- (**G–B**) and (**NG–B**) — most salient, since this draws attention to the link between the location of the perspective holder and the PSI.

But in cases with generic *you* in the antecedent, why is the PB reading (**G–B**) preferred over (**G–H**)? Crucially, it seems that generic *you* resists focus entirely:

(52)   If #[YOU$_{GEN}$'RE]$_F$ at the door, …

When attempting to apply the same focus prosody to generic *you*, the resulting interpetation is exclusively the referential second-person denotation. It is unclear

whether this observation is a strict rule, but there seems to be a rational explanation for the fact that focus is unavailable here: assuming the intended denotation really is the impersonal pronoun you_{GEN}, it would make little sense to emphasize a constituent corresponding to the *variable* in a quantified expression.

Because prosodic focus for generic *you* is out, the only other non-function word option for focus in the antecedent is the property in the restrictor (here, the door):

(53)   a. If you_{GEN}'re at the [DOOR]$_{\text{F}}$, . . .

       b. QUD: *Where*? / *From where?*

       c. A: The cat is behind the desk, *from the door*.

We believe this constraint on accommodable QUDs makes it so that the perspectival reading is dominant for antecedents containing generic *you*.

5   Discussion

We have given an account of perspectival biscuits, a kind of biscuit conditional which shifts perspective for PSIs in the consequent to a perspective given in the antecedent. We claim that perspectival biscuits are best treated as a single generically quantified proposition over individuals, licensed by the generic pronoun, where the restriction in the antecedent picks out the relevant perspective-holding properties and the fully-specified consequent proposition is unconditionally entailed. Although perspectival readings can arise for both generic and non-generic DPs in the antecedent, a prohibition on focus for generic *you* limits the possible QUDs introduced by the antecedent in a PB to those which are relevant for determining perspective in a PSI. Overall, our account suggests that, despite similarities in conditional form, there may be multiple compositional strategies leading to the classic empirical signature of a biscuit conditional.

In this paper, we have explored PBs primarily through the lens of biscuit conditionals. In future work, we hope to integrate our account of PBs with other more general accounts of perspective, such as outlook-based semantics (Coppock 2018)[7]. Assuming this integration is possible, we hope that PBs, which sit at the intersection of possible worlds semantics and perspective, may be a useful phenomenon to help distinguish between outlook-based and non-outlook-based accounts.

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7 In outlook-based semantics, outlooks are refinements of possible worlds, capable of determining discretionary propositions (e.g., those containing a PSI like *tasty*) in addition to determining objective propositions. Under this view, perspective is a doxastic state (set of outlooks), relativized to an agent. To make our account of PBs compatible with outlooks, we would need to overcome two main challenges: seeing to what extent PBs behave similarly for PSIs beyond spatial perspective, and determining what the equivalent of generic quantification would look like in outlook-based semantics.

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