Existential Semantics in Equatives in Japanese and German*

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Abstract

This paper investigates the semantics of two lesser studied equative markers, Japanese *hodo* and German *dermaßen*, focusing on accounting for their polarity sensitivity and their presuppositions. We present an analysis according to which these items have weak existential semantics, producing a trivial meaning in certain configurations, and where presuppositional effects derive from competition with the unmodified positive form.

1 Introduction

Cross-linguistic variation in the semantics of equative constructions has been the subject of considerable recent interest (see e.g. [3],[12],[13],[16]). We contribute to this body of research with an investigation of the Japanese equative marker *hodo* and the German *dermaßen*, which have the interesting property that they are polarity sensitive in some but not all of their uses, a pattern that has not to our knowledge been previously observed. In what follows, we present the relevant data, develop an analysis that derives the polarity sensitivity of these items from a semantics based on existential quantification over degrees, and discuss how the analysis can be refined to account for the presuppositions of *hodo* and *dermaßen*.

2 Data

2.1 Japanese *hodo*

The examples in (1)-(2) illustrate a use of *hodo* that corresponds to English *'as ... as'*, where (1) features a phrasal standard and (2) a clausal standard. Here *hodo* appears to be a negative polarity item, being grammatical in negative sentences but not their positive counterparts. In positive contexts, *hodo* must be replaced with another equative marker, *kurai*.

(1) *Taro-wa Jiro-hodo se-ga *takai/takaku-nai.*
Taro-TOP Jiro-hodo height-NOM tall/tall-NEG

'Taro *is/is not as tall as Jiro.'

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(2) *Taro-wa Jiro-ga nonda-hodo biiru-o *nonda/noma-nakat-ta.*
Taro-TOP Jiro-NOM drank-hodo beer-ACC drank/drink-NEG-past

'Taro *drank/didn't drink as much beer as Jiro did.'

Hodo, however, is not a negative polarity item in a standard sense. First, it is licensed not only by negation in the matrix clause but also by negation in the clausal complement. In this case, the matrix predicate has to be affirmative, as shown in (3), and the sentence yields a comparative interpretation.

(3) *Taro-wa [Jiro-ga noma-nakat-ta-hodo] (takusan) biiru-o nonda/*noma-nakat-ta.*
Taro-TOP [Jiro-NOM drink-NEG-Past-hodo] (much) beer-ACC drank/drink-NEG-Past

(Lit.) 'Taro drank as much beer as Jiro didn't drink.'
'Taro drank more beer than Jiro did.'

Secondly, *hodo* can be licensed by negation in a higher clause, and this is possible in some constructions that do not license other polarity items such as *nidoto* 'again'. For example:

(4) a. [*Taro-ga Jiro-hodo se-ga takai to-iu-koto*]-*wa nai.*
[Taro-NOM Jiro-hodo height-NOM tall COMP-say-fact]-TOP NEG

'It is not the case that Taro is as tall as Jiro.'

b. *??[*Taro-ga nidoto kuru to-iu-koto*]-*wa nai.*
[Taro-NOM again come COMP-say-fact]-TOP NEG

Intended: 'It is not the case that Taro will come again.'

But most importantly, there is a distinct use of *hodo* which corresponds more closely to English *'so... that'*, as illustrated in (5). On this use, it is not polarity sensitive, being acceptable in positive as well as negative sentences.

(5) *Taro-wa basukettobooru senshu-ni nar-eru-hodo se-ga takai/takaku-nai.*
Taro-TOP basketball player-to become-can-hodo height-NOM tall/tall-NEG

'Taro is/is not so tall that he could become a basketball player.'

Thus *hodo* is quite unlike 'ordinary' polarity items, but instead displays an interesting and variable pattern of polarity sensitivity.

In addition to the above-described patterns of acceptability, sentences with *hodo* exhibit presuppositional effects (cf. [4], [10] on similar patterns with equative *kurai* and comparative *izyoo(-ni)*). Specifically, *hodo* on its *'as'* use introduces norm-related presuppositions on both the standard of comparison and the subject. In an example such as (1), the standard – here, Jiro – must count as a clear case of 'tall'; this explains why a *hodo* comparison to the 209 cm tall Giant Baba is felicitous, whereas comparison to the 145 cm tall Ikeno Medaka is odd.

(6) *Taro-wa Giant Baba/#Ikeno Medaka-hodo se-ga takaku-nai.*
Taro-TOP Giant Baba/Ikeno Medaka-hodo height-NOM tall-NEG

'Taro is not as tall as Giant Baba/#Ikeno Medaka.'

Likewise, the subject must also count as 'tall': (1) conveys that Taro is tall but not as tall as Jiro, and would be infelicitous if Taro's being tall were not already part of the common ground.

In the case of *'so'-hodo*, there is similarly a presupposition on the standard of comparison; thus (5) would be odd if 'basketball player' were replaced with 'jockey'. But there is no presupposition on the subject; (5) could be felicitously uttered in a context where nothing was known about Taro's height.

These presuppositional effects go hand in hand with other patterns that distinguish *hodo* from equative constructions such as English *'as ... as'*. In particular, *hodo* cannot be used to express crisp comparisons (see [8]): (1) would be infelicitous if Taro were just slightly (e.g. a few millimeters) shorter than Jiro. It furthermore does not allow proportional modifiers such as 'twice as'. Taken together with the norm-related (evaluative) presuppositions, these properties suggest that *hodo* sentences can be aligned to Rett's [13] class of implicit equatives.

2.2 German *dermaßen*

German has an equative marker *dermaßen* 'to such an extent' that patterns very similarly to Japanese *hodo*. In the construction *dermaßen ... wie* 'to such an extent as' it is sensitive to polarity. It is unacceptable in positive sentences, per (7a). But with sufficient contextual support it is acceptable (for most speakers we have consulted) in the corresponding negative sentence, per (7b). Even more acceptable, and frequently found in corpus data, are examples with a negative quantifier in the matrix clause or the *wie* complement, as in the naturally occurring examples in (8).

(7) *Hans ist groß ...*
Hans is tall ...

a. **Er ist (sogar) dermaßen groß wie sein Vater.*
He is (even) dermaßen tall as his father.

b. *Er ist (aber) nicht dermaßen groß wie sein Vater.*
He is (but) not dermaßen tall as his father.

(8) a. *Nirgends auf der Welt ist die Artenvielfalt dermaßen gross wie hier.*
Nowhere in the world is the biodiversity dermaßen large as here.

b. *Die Panik ist dermaßen gross wie noch nie zuvor.*
The panic is dermaßen large as never before.

Like Japanese *hodo*, *dermaßen* has a second use *dermaßen ... dass* 'to such an extent that'. Just as in the Japanese case, on this use it is not polarity sensitive:

(9) *Hans ist (nicht) dermaßen groß, dass er Basketballspieler sein könnte.*
Hans is (not) dermaßen tall that he basketball-player be-INF could

'Hans is / isn't so tall that he could be a basketball player.'

Like *hodo*, *dermaßen* sentences have presuppositions on both the standard of comparison and the subject. In the *wie* example in (7b), both Hans and his father must be tall; in *dass* examples such as (9), it is necessary that the complement clause introduce a standard that exceeds that of the positive form *groß* 'tall'.

The German data are significant because they demonstrate that the patterns characterizing Japanese *hodo* do not derive from some idiosyncratic property of that language. Japanese and German degree constructions are markedly different in their syntax: *Hodo* sentences, like other Japanese comparative constructions, are formed with only a standard marker, i.e. an element that combines with the constituent that introduces the standard of comparison. *Dermaßen* sentences, like other German comparative constructions, feature both a parameter marker (*dermaßen*) that precedes the gradable expression as well as a standard marker (*wie* or *dass*). Some authors have argued that there are corresponding semantic differences, namely that Japanese differs from languages such as German in lacking degree abstraction (see e.g. [2]). That we observe such similar patterns of distribution and interpretation in two such diverse systems is evidence that these do not derive from properties specific to Japanese (or German) but rather have some more general source.

3 Proposal

3.1 Background

The starting point for our analysis is a recent proposal by Crnič & Fox [3], according to which cross-linguistic variation in equative constructions can be related to the obligatory versus optional presence of a maximality operator in their semantics. Standard degree-based semantic analyses treat equative markers as degree quantifiers that express a relation between two maximum degrees, as in the following (cf. [1] and references therein):

(10) Taro is as tall as Jiro.
$\max\{d : \text{Taro is } d\text{-tall}\} \geq \max\{d : \text{Jiro is } d\text{-tall}\}$

However, on the basis of differences in the behavior of equative constructions in English and Slovenian, Crnič & Fox argue that maximality is not an inherent component of the semantics of the equative. Rather, they propose, equative semantics derive from the presence of separate existential and maximality operators, the latter of which is optional in some languages (in particular Slovenian), but is inserted when needed to avoid a trivial meaning.

The crucial data are the following: Both English *as . . . as* and Slovenian *tako . . . kot* can be used with a positive clausal standard, as in (11). The English example is ungrammatical with negation in the clausal standard; but surprisingly, its Slovenian counterpart is acceptable.

(11) a. John drove as fast [as Mary did / *didn't].

b. *Janez se je peljal tako hitro* [*kot se je Marija (ni)*].
Janez self aux drive dem fast than self aux Mary (neg.aux)

'John drove as fast as Mary did(n't).'

Crnič & Fox propose that in both languages, the positive sentences involve a maximality operator, since otherwise the meaning would trivial (there is always some degree d such that both John and Mary drove d fast). With negation in the standard clause maximality fails (there is no maximal degree d such that Mary didn't drive d fast). In English, maximality is obligatory, resulting in ungrammaticality. In Slovenian, however, maximality may be optionally omitted, allowing the negative version of (11b) to surface.

The central insight that we pursue here is that Japanese *hodo* and German *dermaßen* instantiate a third possibility: whereas maximality is mandatory in English and optional in Slovenian,

our claim is that *hodo* and *dermaßen* never introduce maximality, but rather have simpler existential semantics. Polarity-based distributional restrictions can then be shown to result from triviality of meaning.

In the next subsection we develop this analysis and apply it to Japanese *hodo*, and then briefly outline how it can be adapted to account for the different structure of German *dermaßen* constructions. In the following subsection we discuss how the analysis can be refined to also capture presuppositional effects, and other characteristics of implicit comparatives.

3.2 Basic analysis: explaining polarity sensitivity

To start, we assume that gradable predicates such as Japanese *se-ga takai* and German *groß* 'tall' relate individuals to degrees (as in [6]), and are monotonic, meaning that if Taro is 180 cm tall, he is also 170 cm tall, 160 cm tall, etc.:

(12) $[\![\textit{se-ga takai}]\!] = \lambda d \lambda x.\mu_{HEIGHT}(x) \geq d$

Starting with the Japanese case, we propose the following lexical entry for *hodo*, on which it takes as arguments a set of degrees D, a gradable predicate P, and an individual x, and introduces a variable over degrees d^* which is constrained to be an element of D, and which is subsequently existentially bound, per (13):

(13) $[\![\textit{hodo}]\!] = \lambda D_{\langle dt \rangle} \lambda P_{\langle d,et \rangle} \lambda x.P(d^*)(x)$, where $d^* \in D$

We apply this first to ***'as'-hodo***, i.e. the use of *hodo* on which it may be paraphrased by English *as ... as*. Consider first the ungrammatical positive sentence:

(14) *Taro-wa [[Jiro-hodo] se-ga takai] Intended: 'Taro is as tall as Jiro.'

Here the first argument of *hodo* is provided by the proper name *Jiro*. On the surface this is not of the right semantic type, being of type e, whereas *hodo* requires an argument of type $\langle dt \rangle$. Depending on one's assumptions about the semantics of Japanese comparative constructions, the type mismatch might be resolved in one of two ways. As one option (cf. [5] on *yori* comparatives), an expression of type $\langle dt \rangle$ might be contextually derived on the basis of the denotation of the complement of *hodo*, as in (15a). Alternately, we might take the standard in (14) to be covertly clausal (see again [1] and references therein), including an elided copy of the gradable predicate and null operator movement, as in (15b). Nothing in what follows depends crucially on the choice between these two options.

(15) a. $f([\![\textit{jiro}]\!]) = \lambda d.\mu_{HEIGHT}(\textit{jiro}) \geq d$

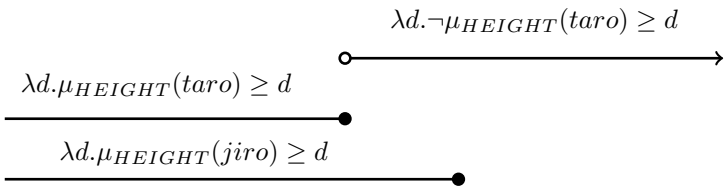
b. $[\![Op_i\ \textit{jiro}\ t_i\ \sout{\textit{se-ga takai}}]\!] = \lambda d_i.\mu_{HEIGHT}(\textit{jiro}) \geq d_i$

The following then presents the full derivation for (14). After existential closure over the variable d^*, the meaning we derive is that there is **some** degree of height that Jiro has that Taro also has. But with the monotonic semantics for *se-ga takai* 'tall' in (12), this meaning is entirely trivial: as illustrated in (17), there will always be some degree of height that the two individuals share. We take this to be the source of ungrammaticality.

(16) a. $[\![$*jiro-hodo se-ga takai*$]\!] = \lambda x.\mu_{HEIGHT}(x) \geq d^*$,
where $\mu_{HEIGHT}(jiro) \geq d^*$

b. $[\![$*taro-wa jiro-hodo se-ga takai*$]\!] = \mu_{HEIGHT}(taro) \geq d^*$
After existential closure:
$\exists d^* : \mu_{HEIGHT}(jiro) \geq d^*[\mu_{HEIGHT}(taro) \geq d^*]$

(17)



In (18) and (19) we present the corresponding constituent structure and semantic interpretation for the negative version of (1).

(18) Taro-wa [[Jiro-hodo] se-ga takaku-nai] 'Taro isn't as tall as Jiro.'

(19) $[\![$*taro-wa jiro-hodo se-ga takaku-nai*$]\!]$
$= \exists d^* : \mu_{HEIGHT}(jiro) \geq d^*[\neg\mu_{HEIGHT}(taro) \geq d^*]$

Referring back to the illustration in (17), the effect of negation in the matrix clause is to invert the set of degrees it introduces. The sentence thus expresses a relation between an upper-bounded set of degrees (the set of Jiro's heights) and a lower-bounded one (the set of heights that Taro doesn't have). In this configuration, an *'as'-hodo* sentence is not trivial: (19) says that there is some degree of height that Jiro has that Taro **doesn't** have, i.e. that Taro is shorter than Jiro.

Observe that in (19), existential closure takes scope over the negation operator introduced in the matrix clause. We assume that the opposite scope relationship is also in principle possible, but is blocked on account of triviality, being the negation of the trivially true (16b).

The analysis developed here also extends to clausal examples such as (2), with a similar choice regarding how to derive a first argument of the right semantic type for *hodo*. It can also capture cases involving negation in a higher clause, as in the earlier example (4a): *hodo* composes in situ and the composition proceeds as usual, with existential closure coming in at the end to bind the degree variable d^*.

We furthermore derive a prediction. Negation in the matrix clause had the effect of reversing the set of degrees it introduces, creating a configuration on which the resulting meaning is non-trivial. We then predict a parallel effect when negation is present in a clausal standard, such that it (rather than the matrix clause) introduces a lower-bounded set of degrees. This prediction is borne out, as illustrated by the previously discussed (3), which demonstrates that in the case of a negated clausal standard for *hodo*, it is the positive sentence that is grammatical, while the negated one is ill-formed.

We turn now to ***'so'-hodo***, that is, the use of *hodo* on which it would be paraphrased with English *so ... that*. Here, we draw on Meier's [11] analysis of *so ... that*, by taking the clausal complement of *'so'-hodo* to be covertly conditionalized, with the set of degrees derived as the standard of comparison being those degrees that are sufficient for the referenced state of affairs to obtain. In (5), whose structure is given in (20), the conditional proposition is as in (21a),

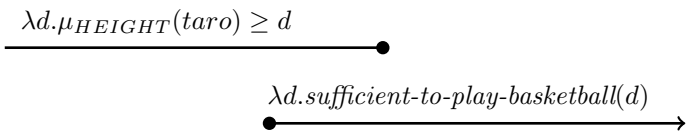
and the corresponding set of degrees is the set of heights that would be sufficient for one to be a basketball player, per (21b). Importantly, this set is lower bounded, as illustrated in (22); for example, if the minimum height to play basketball is 2 meters, the relevant set of degrees is $\{d : d \geq 2m\}$.

(20) Taro-wa [[basukettobooru senshu-ni nar-eru-hodo] se-ga takai]
'Taro is so tall that he could become a basketball player.'

(21) a. PRO is d tall in $w \rightarrow$ PRO can$_{w,h}$ become a basketball player in w

b. $\lambda d.$*sufficient-to-play-basketball*(d)

(22)



On this basis we derive the following as the interpretation for (20):

(23) $\exists d^* :$ *sufficient-to-play-basketball*$(d^*)[\mu_{HEIGHT}(taro) \geq d^*]$

Crucially, (23) is not trivial but rather expresses the contingent proposition that Taro has some degree of height that would be sufficient for him to be a basketball player. In contrast to the case with *'as'-hodo* in a positive context, the sentence is therefore felicitous.

A *'so'-hodo* sentence can be felicitously negated, as in (24). Here in contrast to the case of negated *'as'-hodo* we take existential quantification to scope under negation, as in (25a). Just as before we assume that the opposite scope (25b) is also in principle possible, but here would result in a trivial meaning (trivially true, since assuming that Taro has finite height there will necessarily be some degree of height that he doesn't have that would be sufficient to be a basketball player).

(24) Taro-wa [[basukettobooru senshu-ni nar-eru-hodo] se-ga takaku-nai]
'Taro isn't so tall that he could become a basketball player.'

(25) a. $\neg\exists d^* :$ *sufficient-to-play-basketball*$(d^*)[\mu_{HEIGHT}(taro) \geq d^*]$ ✔

b. $\exists d^* :$ *sufficient-to-play-basketball*$(d^*)[\neg\mu_{HEIGHT}(taro) \geq d^*]$ ✘

To summarize, the variable polarity sensitivity of *hodo* on its *'as'* versus *'so'* uses can be related to a difference between a standard that is an upper-bounded set of degrees and one that is a lower-bounded set.

To adapt this analysis to German *dermaßen*, it is necessary to factor in the distinct structure of comparison constructions in German versus Japanese. This might be done by analyzing *dermaßen* as a degree quantifier, similarly to standard treatments of degree morphemes such as comparative *-er*. The lexical entry is that in (26).

(26) $[\![dermaßen]\!] = \lambda D_{\langle dt\rangle}\lambda D'_{\langle dt\rangle}.D'(d^*)$, where $d^* \in D$

On this interpretation *dermaßen* undergoes quantifier raising for type reasons; degree abstraction in the *wie* or *dass* constituent provides its first argument, while abstraction over the type d trace in its base position provides the second argument. A simple (ungrammatical) positive *dermaßen ... wie* sentence thus has the LF in (27); the resulting interpretation is equivalent to that derived for the corresponding *hodo* sentence in (16b).

(27) a. Hans ist dermaßen groß wie sein Vater. Intended: 'Hans is as tall as his father.'
b. [Dermaßen wie [2 [sein Vater ist t2 groß]][1 [Hans ist t1 groß]]

With this modification, the account applied to the variable polarity sensitivity of Japanese *hodo* can be extended to German.

3.3 Refinement: accounting for norm-related presuppositions

The analysis developed in the preceding section provides an explanation for the variable polarity sensitivity of *hodo* and *dermaßen*. However, we have not yet explained the presuppositional effects characterizing these items, nor the other similarities to implicit equatives. To briefly recap the relevant pattern, negated *'as'-hodo* introduces norm-related presuppositions on both the subject and the standard of comparison. By contrast, *'so'-hodo* has a presupposition on the standard but not on the subject. German *dermaßen* behaves similarly.

Our proposal to account for these patterns is that the degrees over which existential quantification operates in *hodo* / *dermaßen* sentences should be construed not simply as degrees but more specifically as possible thresholds θ for the positive form of the gradable expression. *Hodo* and *dermaßen* sentences are on this view a variety of positive constructions, and compete with the unmodified positive form, the result being presupposition-like effects. This approach is in the tradition of Simons [15], according to which presupposition-like interpretive patterns are analyzed as manner implicatures relative to simpler alternatives.

Focusing on the Japanese case for concreteness, the revised entry for *hodo* is (28), and the interpretation of a (grammatical) negative *'as'-hodo* sentence can be restated as in (29).

(28) $[\![hodo]\!] = \lambda D_{\langle dt\rangle}\lambda P_{\langle d,et\rangle}\lambda x.P(\theta)(x)$, where θ is a threshold for P and $\theta \in D$

(29) a. Taro-wa [[Jiro-hodo] se-ga takaku-nai] 'Taro isn't as tall as Jiro.'
b. $\exists\theta : \mu_{HEIGHT}(jiro) \geq \theta[\neg\mu_{HEIGHT}(taro) \geq \theta]$

Understanding *hodo* in this way first of all allows us to understand why it cannot be used to express crisp comparisons (see Section 2). Thresholds are inherently vague and context-dependent. Given that it is not possible to establish a sharp cut-off that divides individuals that are tall from those that are not, it is also not possible to establish such a precise threshold such that Jiro's height is above it but Taro's height (only a few millimeters shorter) is not.

As varieties of positive constructions, we propose that *hodo* sentences necessarily compete with the structurally simpler bare positive forms (cf. [7] on structurally determined alternatives). Following current practice, we analyze the latter as involving a null 'positive' morpheme *pos*, which introduces a contextually determined threshold θ_c, as in (30). Thus we have (31) as the semantics of the simpler alternatives to *hodo* sentences.

(30) $[\![pos]\!] = \lambda P_{\langle d,et\rangle}\lambda x.P(\theta_c)(x)$

(31) a. *Taro-wa se-ga takai / takaku-nai.*
Taro-TOP height-NOM tall / tall-NEG

'Taro is / isn't tall'

b. $\mu_{HEIGHT}(taro) \geq \theta_c$ / $\neg\mu_{HEIGHT}(taro) \geq \theta_c$

Consider the *'as'-hodo* sentence in (29). If Jiro's height were not distinct from the contextual standard for 'tall' θ_c, the truth conditions of the *hodo* sentence would be equivalent to those of the simpler bare positive form (i.e. the negated (31b)). If Jiro has a greater degree of height than θ_c, then we can have a situation where (29) is true but (31b) is not. This is a situation where both Jiro and Taro have a greater degree of height than θ_c, because in this case, the negated (31b) is false but (29) is true. Thus the standard-oriented inference regarding Jiro's and Taro's heights can be understood as accommodation of a situation in which the truth value of the sentence is distinct from that of the bare form. Put differently, the *'as'-hodo* sentence is blocked by the bare positive form except in the case that both Jiro and Taro have heights exceeding the contextual standard θ_c (cf. [14] for a similar account of the implicatures of implicit comparatives formed with 'compared to').

A parallel explanation can be applied to the standard of comparison in *'so'-hodo* sentences: (20) is felicitous because 'basketball player' introduces a higher standard than simply 'pos tall'; if this were not the case, the simpler positive form could have been used instead. But since the *hodo* sentence in this case produces a more informative assertion about the subject (Taro) than its simpler alternative, it is not blocked by the latter; there are therefore no presupposition-like effects with respect to the subject.

Here a question remains as to why a *hodo* sentence cannot be used to introduce a lower standard than the contextually salient one. That is, why is a very short individual infelicitous as a standard in an *'as'-hodo* sentence, and why is 'become-a-jockey-hodo tall' odd? While we do not have a full explanation for this, we note that a lower standard is possible when the *hodo* constituent is marked with the particle *mo* 'even':

(32) *Taro-wa #Giant Baba/Ikeno Medaka-hodo-mo se-ga takaku-nai.*
Taro-TOP Giant Baba/Ikeno Medaka-hodo-even height-NOM tall-NEG

'Taro isn't even as tall as #Giant Baba / Ikeno Medaka'

Thus there appears to be an asymmetry between raising and lowering standards, with the latter being marked and needing to be overtly signaled. We also note similar patterns in other constructions that do not share the specific properties of *hodo* and *dermaßen* sentences (e.g. *John is so tall that he could be a ??jockey/basketball player*), suggesting that additional factors may be in play.

In concluding this section, we observe a connection to Klein's [9] theory of comparatives, according to which *Taro is taller than Jiro* is analyzed essentially as expressing 'there is some way of construing *tall* such that Taro is tall and Jiro is not tall'. The difference in the present case is that to say that 'there is some way of construing *tall* such that both Taro and Jiro are tall' is trivially true, resulting in ill-formedness.

4 Conclusions

We have shown that the distributional and interpretive effects characterizing *hodo* can be explained on the basis of a weak existential semantics, which yields a trivial interpretation in

certain configurations, coupled with pragmatic competition with the simpler positive form. Previous work by Crnič & Fox has shown that the obligatory versus optional presence of a maximality operator is a dimension along which the semantics of equative constructions may vary cross-linguistically. We have argued that Japanese *hodo* and German *dermaßen* instantiate a third possibility: these items never introduce maximality, the consequence being a more restricted and seemingly idiosyncratic distribution relative to better-studied equative markers. Our findings thus contribute to a fuller picture of variation in the semantics of degree constructions across languages.

References

[1] Beck, S.: Comparative constructions. In: Maienborn, C., von Heusinger, C., Portner, P. (eds.) Semantics: An international handbook of natural language meaning, Vol. 2, pp. 1341–1389. Mouton de Gruyter, Berlin (2011)

[2] Beck, S., Oda, T. and Sugisaki, K.: Parameteric variation in the semantics of comparison: Japanese vs. English. Journal of East Asian Linguistics **13**, 289-244 (2004)

[3] Crnič, L., Fox, D.: Equatives and maximality. In: Altshuler, D., Rett, J. (eds.) The Semantics of Plurals, Focus, Degrees, and Times, pp. 163-–184. Springer, Cham (2019)

[4] Hayashishita, J.R.: *Izyoo(ni)*-and *gurai*-comparatives: Comparisons of deviation in Japanese. Gengo Kenkyu **132**, 77–109 (2007)

[5] Hayashishita, J.R.: *Yori*-comparatives: A reply to Beck et al. (2004). Journal of East Asian Linguistics **18**(2), 65—100 (2009) https://.doi.org/10.1007/s10831-009-9040-5

[6] Heim, I.: Degree operators and scope. In: Jackson, B., Matthews, T. (eds.) Proceedings of the 10th Semantics and Linguistic Theory Conference (SALT10), pp. 60–84. CLC Publications, Ithaca, NY (2000). http://dx.doi.org/10.3765/salt.v10i0.3102

[7] Katzir, R.: Structurally-defined alternatives. Linguistics and Philosophy **30**(6), 669-–690 (2007). https://doi.org/10.1007/s10988-010-9074-1

[8] Kennedy, C.: Vagueness and grammar: The semantics of relative and absolute gradable adjectives. Linguistics and Philosophy **30**(1), 1—45 (2007). https://doi.org/10.1007/s10988-006-9008-0

[9] Klein, E.: A semantics for positive and comparative adjectives. Linguistics and Philosophy **4**(1), 1—45 (1980). https://doi.org/10.1007/BF00351812

[10] Kubota, Y.: The presuppositional nature of *izyoo(-ni)* and *gurai* comparatives: A note on Hayashishita (2007). Gengo Kenkyu **141**, 33—46 (2012)

[11] Meier, C.: The meaning of *too*, *enough* and *so... that*. Natural Language Semantics **11**(1), 69-–107 (2003). https://doi.org/10.1023/A:1023002608785

[12] Penka, D.: Degree equatives - the same as comparatives? Workshop on Equative Constructions. University of Cologne (2016)

[13] Rett, J.: Separate but equal: a typology of equative constructions. In: Hallman, P. (ed.) Degree and quantification. Brill, Leiden (in press)

[14] Sawada, O.: Pragmatic aspects of implicit comparison: An economy-based approach. Journal of Pragmatics **41**(6), 1079—1103 (2009). https:
doi.org/10.1016/j.pragma.2008.12.004

[15] Simons, M.: On the conversational basis of some presuppositions. In: Capone, A., Lo Piparo, F., Carapezza, M. (eds.) Perspectives on linguistic pragmatics, pp. 329—348. Springer, Cham (2001/2013)

[16] Umbach, C., Özge, U.: Scalar and non-scalar comparison across categories: The case of Turkish equatives. TbiLLC 2019 (2019)