

1. Pronouns, Pro-Forms, and Anaphora

In traditional grammar, and in traditional lexicography, the term ‘pronoun’ applies to a wide variety of English words, including (but not limited to) the following.

- | | |
|--------------------------|--------------------------------|
| ▪ personal pronouns | I, you, he, she, it, we, ... |
| ▪ reflexive pronouns | myself, yourself, himself, ... |
| ▪ demonstrative pronouns | this, that |
| ▪ interrogative pronouns | who, whom, which, ... |
| ▪ relative pronouns | who, whom, which, that, ... |

Pronouns are a special case of the more general class of *pro-forms*, which include the following.

- | | |
|--------------------|--|
| ▪ pro-sentences | Jay may visit tomorrow, in which case I will meet him at the train station. |
| ▪ pro-VPs | Jay respects Kay, and so does Elle |
| ▪ pro-adjectives | no such person lives here |
| ▪ pro-common-nouns | this dog is large, but that one is small |
| ▪ etc. | |

In principle, but not in practice, for each category *K*, there is an associated category of pro-*K*s.

2. Pro-NPs

Personal pronouns are best thought of as **pro-NPs**, where NP is a multi-typed category that includes proper-nouns, quantifier phrases, determiner phrases, and relative pronouns.

3. Anaphora

Pro-forms are intimately connected to an important class of objects – **anaphora**. In addition to pro-forms, anaphoric items include the following examples.

if it is sunny tomorrow, I will play tennis; **otherwise**, I will play racket ball
Jay and Kay aced the exam, but no one **else** did

4. Examples of Personal Pronouns

- (1) I sent **him** a copy of **your** paper
- (2) Jay respects Kay, but **she** does not respect **him**
- (3) Jay and Kay live together, but **they** are not married
- (4) every man respects **his** mother
- (5) every woman respects **herself**
- (6) every man respects every woman who respects **him**
- (7) every woman is happy if **she** is virtuous
- (8) a wise man cashes **his** paycheck at the bank;
a foolish man cashes **it** at the race track
- (9) every boy who deserved **it** got the prize **he** wanted
- (10) only/exactly one Freshman is in the class; **she** is doing well
- (11) a number is even if and only if **it** is divisible by 2
- (12) if a man owns a donkey, then **he** feeds **it**

5. The Basic Kinds of Pronouns

Pronouns may be thought of as pointers. A pronoun can point *externally*, in which case it is said to be **exophoric**, or **deictic**. Alternatively, a pronoun can point *internally*, in which case it is said to be **endophoric**, or **anaphoric**. In the latter case, the phrase to which the pronoun points is called its **antecedent**, and the pronoun is said to be **anaphoric to** its antecedent.¹

1. Exophoric (Deictic) Pronouns – point externally *directly*

1. Indexical Pronouns

Indexical expressions inherently point at fundamental features of the context, and include words such as ‘I’, ‘we’, ‘you’, ‘here’, and ‘now’. Interestingly, in English, only ‘I’ is used exclusively as an indexical expression.² The others are *also* used demonstratively.

2. Demonstrative Pronouns

Every such pronoun is accompanied by an act of *demonstration* (pointing, showing).

he(☞) respects her(☞)

I select you(☞), you(☞), and you(☞)

if you want this(☞), this(☞), and this(☞),

then you have to have this(☞), this(☞), and this(☞)

2. Endophoric (Anaphoric) Pronouns – point internally

1. Duplicating Pronouns [lazy pronouns]

Such a pronoun *simply repeats the content of its antecedent*.

Jay respects Kay, but she (☞) does not respect him (☞)

=

Jay respects Kay, but Kay does not respect Jay

2. Non-Duplicating Pronouns [essentially-anaphoric]

Such a pronoun *does not simply repeat the content its antecedent*

every man respects his (☞) mother

≠

every man respects every man's mother

6. Other Important Distinctions

1. Referential (or not)

Some authors apply the term ‘referential’ to pronouns; basically, a pronoun is said to be **referential** if it denotes an item of type U [entity]. Every deictic pronoun is referential. Most, but not all, lazy pronouns are referential. No essentially-anaphoric pronoun is referential.

¹ The various terms are Latinisms, based on the following "literal" meanings.

‘exo’ + ‘phoric’ means “carrying outside”

‘endo’ + ‘phoric’ means “carrying inside”

‘ana’ + ‘phoric’ means “carrying back”

Other words based on ‘phoros’ include ‘metaphor’ [carrying beyond], ‘semaphore’ [carrying sign], and ‘phosphor’ [carrying light].

² The pronoun ‘we’ is partly indexical, since it semantically includes ‘I’, but it is partly demonstrative, since it semantically includes other (demonstrated) individuals as well.

2. Anaphoric to Explicit Antecedent or Implicit Antecedent

Under most circumstances, an anaphoric pronoun is bound by its antecedent, but this is not always the case. We accordingly distinguish between **standard anaphoric** pronouns and **non-standard anaphoric** pronouns. Although there may be other instances of non-standard, we concentrate on those in which the pronoun is anaphoric to an implicit DP. For example, in the phrase

exactly one dog is barking... it is trying to get in the house

the implicit DP that ‘it’ alludes to is:

the dog that is barking.

3. NP-anaphoric or Role-Anaphoric

Reflexive pronouns are best understood as **role-anaphoric**. The *direct-antecedent* of a reflexive pronoun is a grammatical-role (usually subject), although its *indirect-antecedent* is an NP, the latter of which controls various agreement features of the pronoun.

This is not entirely different from:

man who respects his mother

The pronoun stem ‘he’ is directly-anaphoric to ‘who’, and indirectly-anaphoric to ‘man’, which controls agreement features.

7. Summary

The following table summarizes our classification of personal pronouns.

Exophoric / Deictic	Endophoric / Anaphoric			
	Role- Anaphoric	NP-Anaphoric		
		duplicating	essentially-anaphoric	
			Standard Anaphoric Pronouns	Non-Standard Anaphoric Pronouns
Demonstrative and Indexical Pronouns	Reflexive Pronouns	Lazy Pronouns	Anaphoric to Explicit Antecedent	Anaphoric to Implicit Antecedent

8. Example 1

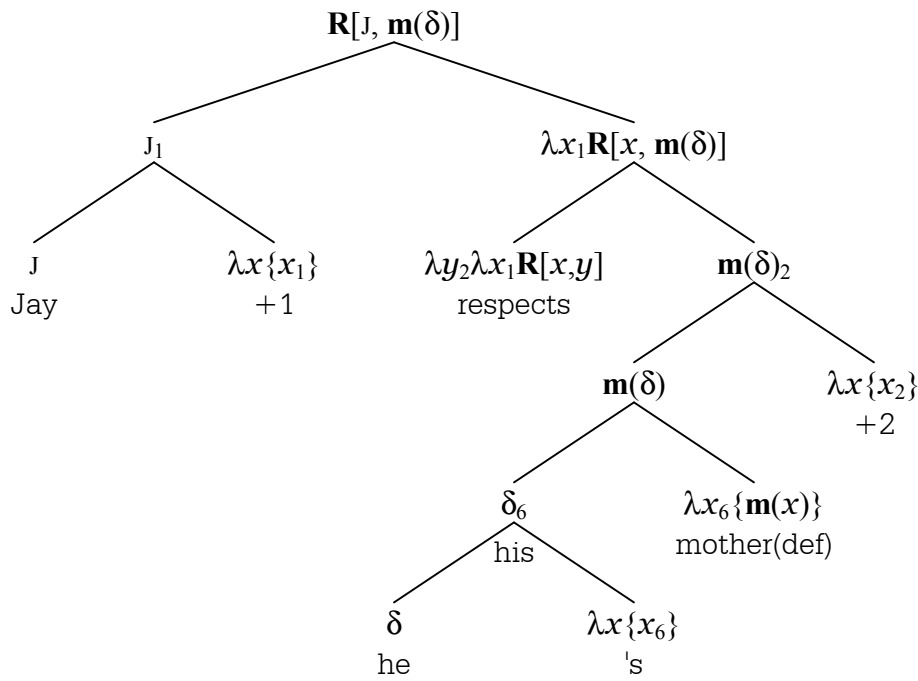
Jay respects his mother

The semantic analysis depends upon

- (1) whether ‘he’ is exophoric (*deictic*) or endophoric (*anaphoric*), and
- (2) if it is anaphoric, what it is anaphoric to.

1. Deictic Reading of ‘he’

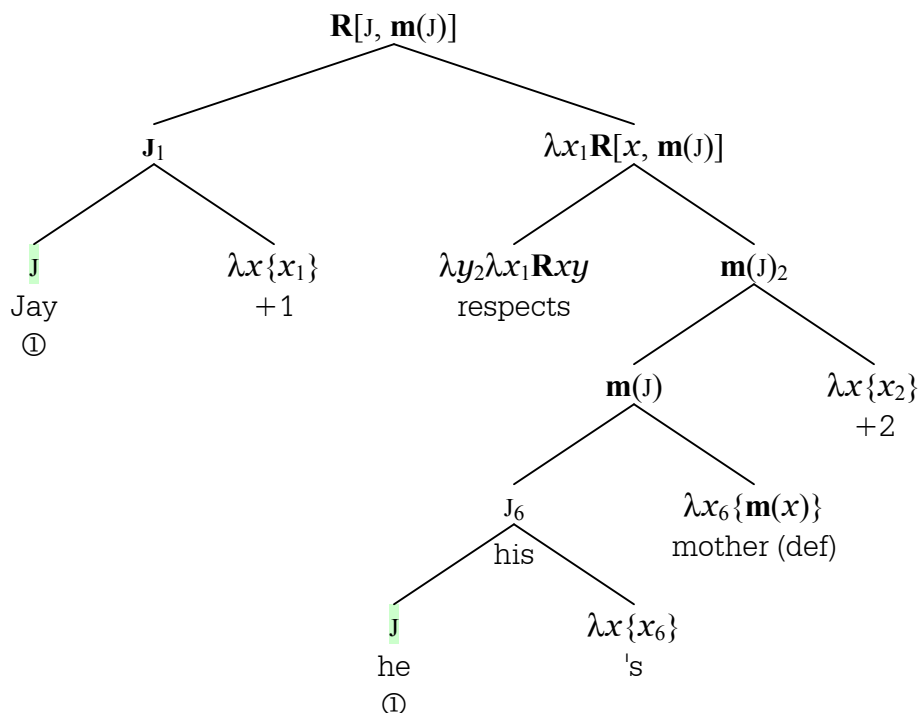
In this case, ‘he’ denotes an individual in the situation, demonstrated or otherwise salient, and accordingly has type D. Let us use ‘ δ ’ to refer to this individual, which is formally given in the context/situation. Then the semantic-tree looks thus.



2. Anaphoric Reading of ‘he’

1. ‘he’ is lazy-anaphoric to ‘Jay’

In this case, ‘he’ likewise has type D, and repeats the semantic content of ‘Jay’, as seen in the following tree.



9. Global Semantic Rule for Lazy Pro-Forms

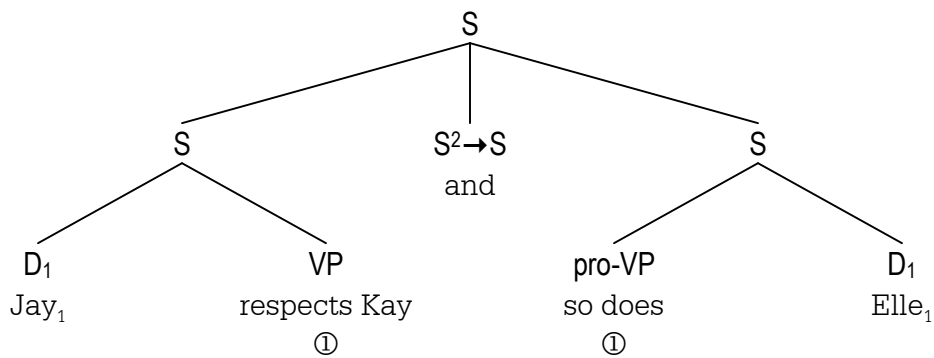
Notice that we add additional markers (circled-numerals) in the tree to indicate lazy-anaphoric relations. For example, in the above tree ‘Jay’ and ‘he’ are anaphorically-linked. Note that the semantic entry [shaded] for ‘he’ is identical to the entry [shaded] for ‘Jay’. This is the characteristic feature of a lazy pro-form – it simply *repeats* the semantic content of its antecedent, which is conveyed in the following global semantic rule.

The semantic-value of a lazy pro-form is identical to the semantic-value of its antecedent.

10. Example 2

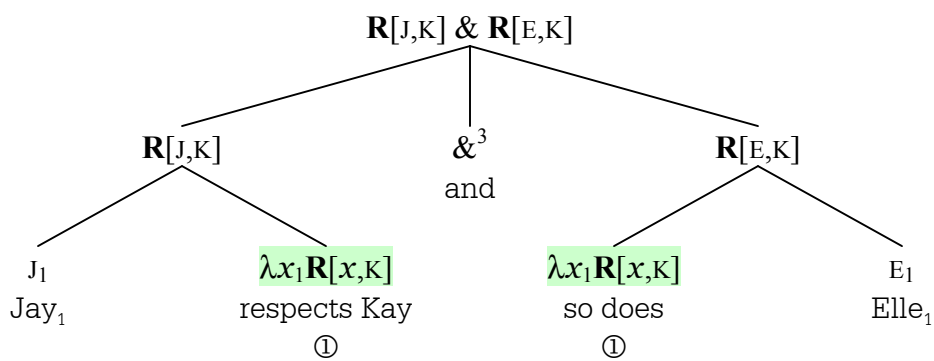
Jay respects Kay, and so does Elle

We treat ‘so does’ as a pro-VP, which in this example is lazy-anaphoric to the VP ‘respects Kay’, in which case this sentence is syntactically analyzed via the following tree.



Once again, circled-numerals match pro-forms with their respective antecedents.

The corresponding semantic-tree goes as follows.



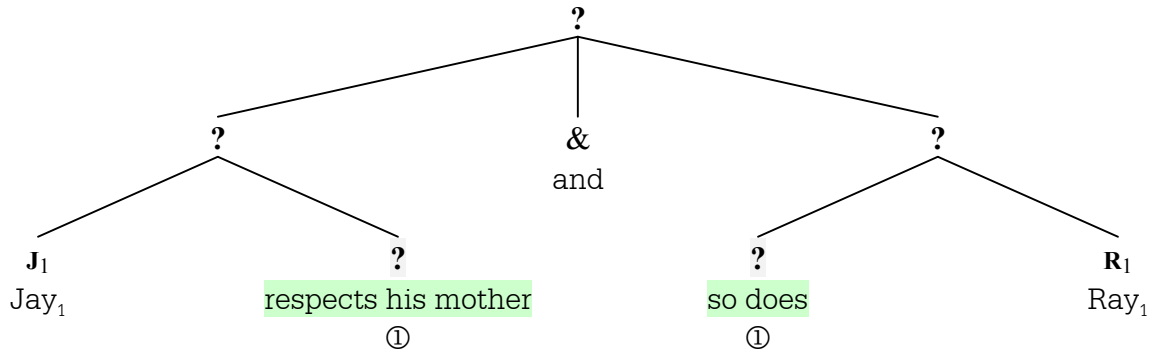
Note that the semantic entry for ‘so does’ is identical to the entry for ‘respects Kay’, in accordance with the global semantic rule governing lazy pro-forms.

³ Henceforth, we often write ‘&’ by itself in place of ‘ $\lambda\Phi\Psi\{\Phi\&\Psi\}$ ’.

11. Example 3

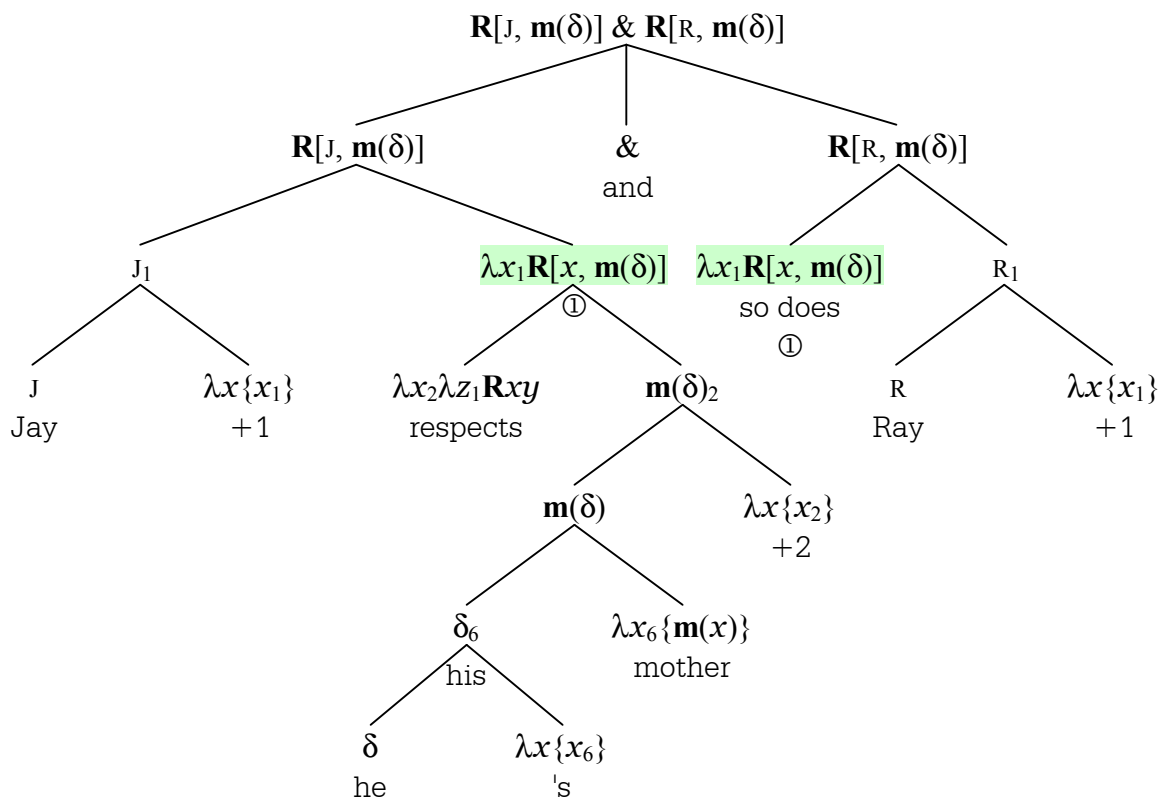
Jay respects his mother, and so does Ray

Once again, we treat 'so does' as lazy-anaphoric, in this case to 'respects his mother', and we treat 'his' as ambiguous. So, *overall*, we have the following semantic tree.

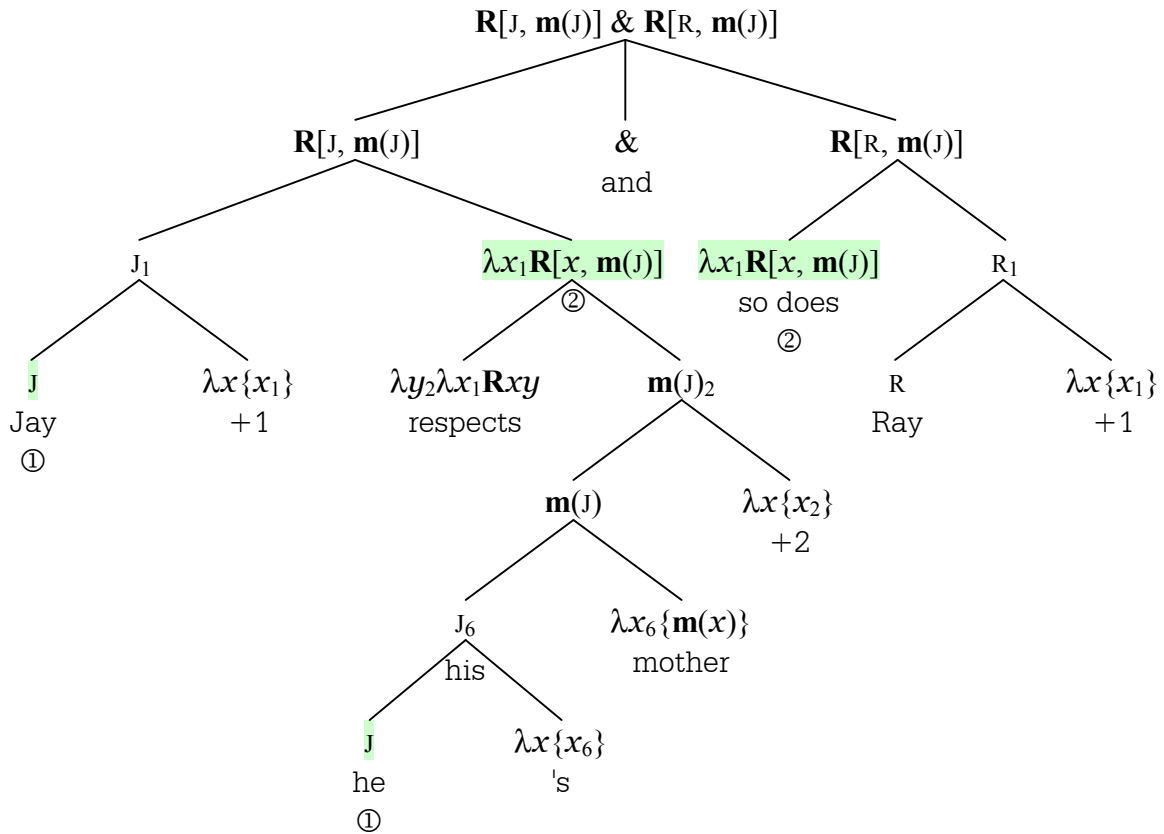


Note that the shaded entries are bound to each other – the same semantic entry must go in for both. So, whatever interpretation we give to 'his' must be repeated "inside" 'so does'.

1. Deictic Reading of 'his'

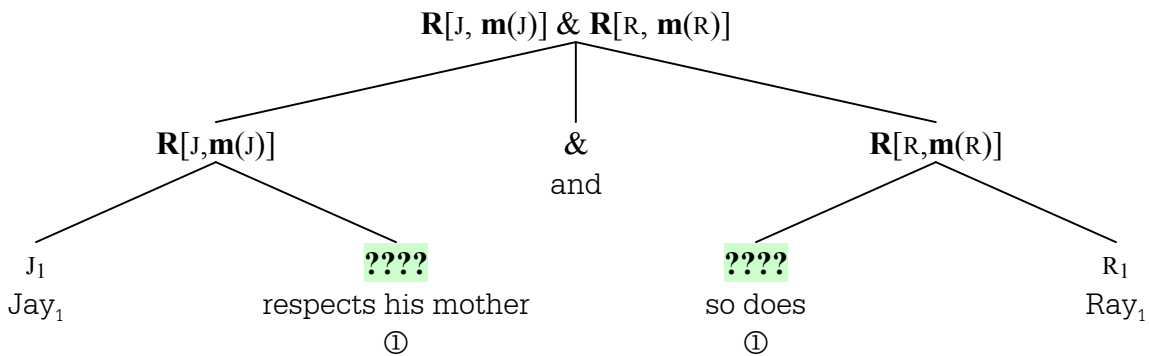


2. Lazy Reading of 'his'

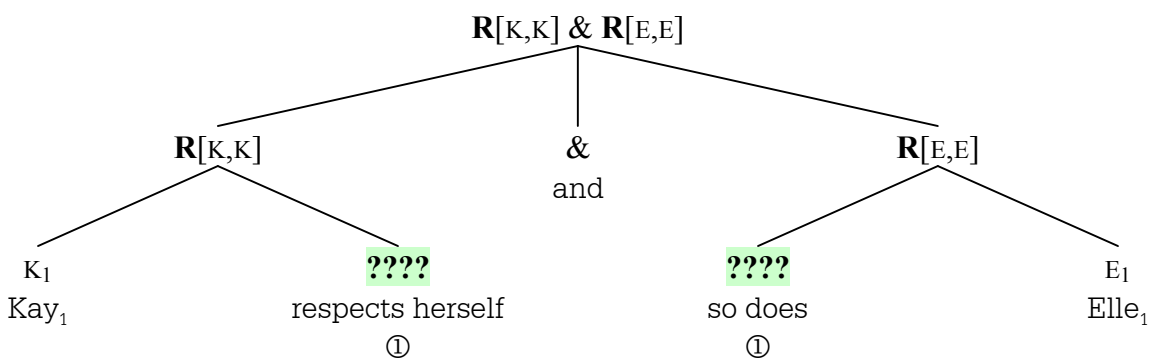


3. Quasi-Reflexive Reading of 'his'

How does one semantically construct the following reading, which seems available.



Reflexive pronouns present a similar problem. How do we semantically construct the shaded nodes in the following?



12. Reflexive Pronouns

In English, the paradigm reflexive pronouns are formed by appending ‘self’ to a pronoun stem, as in the following examples.

I respect **myself**
 you respect **yourself**
 he respects **himself**
 she respects **herself**

Other constructions count as reflexive, including:

Jay respects his **own** mother

13. Reflexive Pronouns are Highly Restricted in Distribution

The following are infelicitous, presuming standard gender readings.

- (1) Jay's mother respects *himself*
- (2) Kay's father respects *herself*
- (3) Jay and Kay respect *himself*[*herself*]
- (4) Jay believes *herself* to be cursed
- (5) Jay respects himself and *so does* Elle

The simplest *syntactic* method of blocking infelicitous reflexives is to adopt a rule that says that the antecedent of a reflexive pronoun *must* be a **predicate-mate** of that pronoun, which in turn must agree in person, number, and gender with that antecedent. Explaining what a predicate-mate is remains to be clarified in detail, but the intuition should be evident to anyone who has studied elementary logic.

14. Our Proposal – Role-Anaphora

No purely syntactic approach to reflexives is entirely satisfactory. We prefer to describe the situation by saying that a reflexive pronoun is **directly-anaphoric**, not to an NP, but to a grammatical-role (usually subject), and is **indirectly-anaphoric** to whatever phrase fills that role. For example, in the following

Kay's mother respects herself

the reflexive pronoun ‘herself’ is directly anaphoric to the subject-role, and indirectly anaphoric to whatever fills that role, which in this particular case is ‘Kay's mother’.