

## Expressing perception in parallel ways

### Sentential Small Clauses in German and Romance\*

#### 1. Introduction

This chapter discusses contrastively two constructions that occur as complements of perception verbs. The first is Pseudo-relatives (henceforth, ‘PRs’), attested in all Romance languages (except for Rumanian). In this construction the perception verb is followed by a nominal object and an embedded clause headed by the complementiser *che* (‘that’), cf. (1).

PRs have been studied in various papers since the 1970s.<sup>1</sup> As the name suggests, PRs look superficially like restrictive relative clauses, but differ syntactically (see §3.1):

- |       |                         |             |      |        |         |
|-------|-------------------------|-------------|------|--------|---------|
| (1) a | Vedo                    | Luisa       | che  | balla. | Italian |
| b     | Je vois                 | Louise      | qui  | danse. | French  |
| c     | Veo a                   | Luisa       | que  | baila. | Spanish |
| (I)   | see                     | (DOM) Luisa | that | dances |         |
|       | ‘I see Louise dancing.’ |             |      |        |         |

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<sup>1</sup> Among the first studies we find Schwarze (1974), Kayne (1975), Radford (1975, 1977), Graffi (1980). Afterwards: Burzio (1986), Guasti (1988, 1992), Cinque (1992), Rizzi (1992), Campos (1994), Rafel (2000), Cecchetto and Donati (2011), Casalicchio (2013, 2016), Koopman and Sportiche (2014), Graffi (2017), Moulton & Grillo (2014, 2015), Herbeck (2019), a.o.

The second construction occurs in German (and Dutch). The perception verb selects a nominal object that is followed by an embedded clause headed by the complementiser *wie/hoe* ('how'). I refer to this construction with the descriptive label 'Subject-*wie*' ('SW'), because superficially the semantic subject of the embedded clause occurs on the left of the complementiser:<sup>2</sup>

- (2) a Ich sah Luise, wie sie tanzte. German  
 b Ik zag Luise hoe ze danste. Dutch  
 I saw Luise how she danced  
 'I saw Louise dancing.'

Unlike PRs, SWs have hardly received attention in the literature. This may be due to various factors; first, sentences like (2) are ambiguous between an SW and an adverbial temporal clause, which can be headed by *wie*, too (corresponding to 'when'). Furthermore, scholars have paid more attention to another construction that is peculiar to German, namely a completive clause headed by *wie* (3).<sup>3</sup>

- (3) Ich sah, wie Luise tanzte. German  
 I saw how Louise danced  
 'I saw Louise dancing.'

In the literature, SWs (2) have generally been considered as just a variant of (3), or as cases of prolepsis, namely an anteposition of the subject for pragmatic or rhetoric reasons.<sup>4</sup>

<sup>2</sup> Note that here *wie/hoe* is a complementiser, and not a modal adverb, see §2.2.

<sup>3</sup> SWs and completive *wie*-clauses are discussed in Clément (1971), Vater (1975), Fuß, Konopka & Wöllstein (2017), Zimmermann (1991).

<sup>4</sup> As various speakers confirmed, there seems to be a huge regional variation in the use of SWs, which are found especially in the South-Eastern part of the German-speaking area. For this paper I relied mainly on judgements from myself (I am a native speaker from Merano/Meran in South Tyrol, Italy) and from other speakers of my region. In some points I integrated real examples coming from the COSMAS-II corpus (<https://cosmas2.ids-mannheim.de/cosmas2-web/>). Note that in my variety proper nouns are usually preceded by an article, as in the Southern German area generally; I keep this use in the examples of SWs, because the presence of articleless proper nouns would make all examples marginal or even ungrammatical.

The aim of this chapter is twofold: first, to offer the first detailed description of the syntactic properties of SWs. Second, to propose an analysis based on a comparison with PRs, for which I follow the proposal put forward in Casalicchio (2016a). This twofold approach to SWs allows me to analyse them thoroughly, taking advantage of the more advanced knowledge that we have reached on PRs over the decades.

The results of the contrastive analysis show that there is a striking correspondence between PRs and SWs, with minor differences regarding their distribution. Therefore, I suggest that both PRs and SWs are Small Clauses (‘SCs’) with a CP-structure:<sup>5</sup>

(4) PRs:  $V_{\text{perc.}} [\text{SC=ForceP Maria}_i \text{ che } [\text{TP pro}_i \text{ balla}]]$  (adapted from Casalicchio 2016a: 36)

(5) SWs:  $V_{\text{perc.}} [\text{SC=ForceP Maria}_i \text{ wie } [\text{TP sie}_i \text{ tanzte}]]$

In both (4) and (5) the antecedent<sup>6</sup> is merged in the Specifier of ForceP. It is coindexed with the internal subject of the clause: a *pro* in PRs, a subject pronoun in SWs.

Finally, both PRs and SWs can either be used as complement of the perception verb that selects them, or they can be merged into bigger structures: DPs (6) or ‘Larsonian’ structures (7).<sup>7</sup> The latter occurs when the antecedent and the PR/SW behave as two different constituents (see §3.3):


(6)  $V_{\text{perc}} [\text{DP D N}_i [\text{PR PRO}_i \text{ che/wie ...}] \text{ N}_i]$



<sup>5</sup> For sake of simplicity I do not indicate the internal structure of the TP, since it is not directly involved in the analysis of PRs and SWs.

<sup>6</sup> For ease of exposition, in this chapter I use the term ‘antecedent’ to refer to the element that is the semantic subject of both PRs and SWs. It should be considered as a purely descriptive term.

<sup>7</sup> The structure (7) is based on Larson’s (1988) seminal proposal for ditransitive constructions, which has then been implemented in several studies by various scholars.

(7)  $V_{\text{perc.}} [VP DP_i \forall^o [PR PRO_i \textit{che/wie} \dots]]$   


The chapter is structured as follows: §2 deals with the different types of perception construction existing in Romance and German. §3 discusses the syntactic properties of PRs (§3.1), their distribution (§3.2) and analysis (based on Casalicchio 2016a), §3.3. The discussion is mainly based on Italian, although most of the observations can be extended to PRs of French and, to a lesser extent, Spanish. §4 is devoted to SWs and follows the same scheme of §3: I first discuss their properties, in particular those that distinguish them from temporal adverbial clauses (§4.1). I then illustrate the distribution of SWs (§4.2) and propose an analysis that corresponds to the one of PRs (§4.3). Since SWs have received much less attention in the literature to date, I discuss them in more detail than PRs. Finally, §5 contains the conclusions.

## 2. Perception constructions in Romance and in German

Perception is a complex physical process that involves our senses and that can be voluntary or not. In English, as well as in Romance and German, perception can be described through several constructions that have different semantic nuances (see Radford 1977, Barwise 1981, Higginbotham 1983, and Bayer 1986, a.o.).

In the next sections, I discuss first the general properties of perception, focusing especially on the bipartition between direct vs. epistemic perception. I then show that direct perception can focus either on an event or on an individual (§2.1). The subsequent sections discuss what constructions are used – and with which value – in Romance (§2.2) and in German (§2.3), while §2.4 resumes the main observations of the section.

### 2.1 General properties of perception constructions

Perception itself is basically an involuntary, spontaneous act, which can be converted, under certain circumstances, into a voluntary action. In Germanic and Romance, this difference is vehiculated

through different lexical verbs, e.g. *see* and *hear* for spontaneous perception, *watch* and *listen to* for voluntary perception (8). Furthermore, there is also a second type of perception, called epistemic perception. It is the result of a mental elaboration based on what we have perceived (9):

- (8) a John saw Mary run to the bus stop. (direct perception)  
b John saw that Mary was late. (epistemic perception)  
(9) I see that you went to bed late yesterday. (epistemic perception)

Examples (8a) and (8b) can both refer to the same event, in which John sees Mary while she is running to the bus stop because she is late. (8a) indicates that John perceived an event in which Mary was running to the bus stop (direct perception). The example in (8b), on the other hand, is a deduction based on a perception process; it could be based on our direct perception in (8a), but also, e.g., on the fact that we see that Mary is not at work when her shift starts. Being late is not an event that can be perceived as such, but it must be deduced from some evidence, e.g. from the fact that somebody is running instead of walking as usual. Similarly, we can only perceive an event at the time at which it is taking place: tense mismatches are logically excluded. Thus, (9) can only describe a mental elaboration of something I have perceived (e.g., the addressee yawning frequently). Both (8b) and (9) are thus *epistemic perception*. Note that with verbs of voluntary perception like *watch* only the direct perception reading is accessible.

Crucially, the difference is not lexically evident: in both (8a) and (8b) the same perception verb *see* is used. Only syntax (and the context) can tell us which type of perception is at stake, because the two readings of ‘see’ select different complements: an infinitive in (8), a completive clause in (9).

Direct perception can further be divided according to the object of perception: it is possible to perceive either an individual (or a group of individuals, (10)) or an event (11):

- (10) The Romans saw the Visigoths.

(11) The Romans saw the sack of their city.

In (10) and (11) the verb of perception selects a DP, which is a group of people in (10), an event in (11). The same contrast is found when the perception verb selects a clausal complement: (12a) can be uttered when the focus is on the Visigoths, which were perceived while they were involved in an event. I refer to this type of construction as ‘Individual Perception Construction’ (‘IPC’). In (12b), on the other hand, the perception concerns the event as a whole, in which the Visigoths are just one actant. I call this construction ‘Event Perception Construction’ (‘EPC’).<sup>8</sup> As I show below, both the Romance languages and German distinguish sharply between these two types of direct perception.<sup>9</sup>

(12)a The Romans saw the Visigoths (in the act of / while they were) sacking their city.

b The Romans saw the Visigoths sack their city.

The distinction between IPCs and EPCs plays an important role in Romance and German. First of all, EPCs can have a null semantic subject (13), while the semantic subject of IPCs must be overt (14):

(13)a J’ai vu pleuvoir dans le désert. French – EPC

I=have seen rain.INF in the desert

‘I saw it rain in the desert.’

b J’entends crier dans la rue

I=hear cry.INF in the street

‘I hear someone cry in the street.’

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<sup>8</sup> I refer the reader to Casalicchio (2016b) for a more detailed discussion of the properties of IPCs and EPCs. In that paper, the difference between IPCs and EPCs is based on the more general difference betweenthetic and categorical sentences:thetic sentences are all-new, and no constituent is singled out, while categorical sentences have a subject-predicate configuration (see Kuroda 1972, who based his proposal on Brentano’s and Marty’s theories of judgments; and Graffi 1997, Basilico 2003).

<sup>9</sup> See also Rizzi (1992). Note that in English the difference does not seem to be as sharp as in Romance or German: according to Akmajian (1977) and Felser (1999), both the infinitive and the participial construction refer to an event.

- (14)a \*J'ai vu pleuvant IPC  
 I=have seen raining
- b \*J'entends criant dans la rue  
 I=hear crying in the street

In addition, as pointed out by Felser (1999), an abstract, unperceivable entity can be the semantic subject of an EPC, since what is perceived is the event as a whole (15b). This is usually impossible in IPCs (15c):<sup>10</sup>

- (15)a \*Ich sah den Glauben. German  
 I saw the faith
- b Ich sah den Glauben Wunder vollbringen. EPC  
 I saw the faith miracles accomplish  
 'I saw faith accomplish miracles.'
- c \*Ich sah den Glauben, wie er Wunder vollbrachte. IPC  
 I saw the faith how he miracles accomplished

As I show in the next sections, both the Romance languages and German strictly distinguish syntactically IPCs from EPCs.

## 2.2 Perception constructions in Romance

Romance languages are quite homogeneous as far as perception constructions are concerned. The different types of perception can be described through the following constructions:

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<sup>10</sup> Examples (15a-b) are taken from Felser (1999: 214).

### 1. Epistemic perception

Epistemic perception can only be described by completive clauses introduced by *that*:

- (16) Vedo che Maria è già partita. Italian  
I see that Maria is already left  
'I see that Mary has already left.'

### 2. Event Perception

Various constructions are EPCs: infinitival clauses (17) and – more rarely – completive clauses introduced by *how* (18).<sup>11</sup> Note that, being EPCs, the semantic subject of infinitival clauses can be silent – in this case, the meaning is usually generic (see §2.1):

- (17) Ho visto (Paolo) commettere molti errori.  
I have seen Paolo make many errors  
'I saw Paolo make many errors.'
- (18) Gianni ha visto come Maria se ne stava andando, e se n'è dispiaciuto.  
Gianni has seen how Maria SE of.it was going and SE of.it.CL-is felt.sorry  
'Gianni saw that Mary was leaving and felt sorry.'

### 3. Individual perception

Various types of IPC exist in Romance: the predicate can be an adjective phrase (19); a prepositional phrase (20); a past participle (21); a gerund, prepositional infinitive, or present participle (22);<sup>12</sup> and finally, a PR (23). Note that in all these constructions the antecedent must be overt (cf. §2.1):

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<sup>11</sup> Completive clauses headed by *how* should not be confused with indirect interrogatives (see §2.3 for German). Note that with the right context also completive clauses introduced by *that* can be interpreted as direct perception in both Romance and German. I do not list them as EPCs for sake of clarity.

<sup>12</sup> Note that gerunds, prepositional infinitives and present participles are restricted to some Romance varieties (see Casalicchio 2019 for an overview).



(19) Ho sentito \*(Maria) triste.

Italian

I have heard Maria sad

‘I heard Mary sounding sad.’

(20) a Vidi \*(Maria) in cucina.

I saw Maria in kitchen

‘I saw Maria in the kitchen.’

b \*(Ti) vedo in difficoltà.

you.CL I see in trouble

‘I see you in trouble.’

(21) \*(L') ho visto seduto per terra.

him.CL I have seen sat on floor

‘I saw him sitting on the floor.’

(22) a Vi \*(a María) llorando.

Spanish

I saw DOM Maria crying

b J'ai vu \*(Marie) pleurant.

French

I=have seen Marie crying

c Vi \*(a Maria) a chorar.

European Portuguese

I saw the Maria to cry

‘I saw Maria crying.’

(23) Vedo Marco che corre.

Italian

I see Marco that runs

‘I see Marco running.’

As witnessed by (23), PRs also belong to IPCs, since they single out an individual while she/he is taking part in an event. Indeed, PRs are often described as a temporary modification of the object of

perception: the individual is perceived as involved (usually with the role of agent) in a specific event.

I come back to PRs in §3.

## 2.3 Perception constructions in German

The inventory of German perceptive constructions by and large overlaps with Romance, with some smaller differences.<sup>13</sup>

### 1. Epistemic Perception

Completive clauses headed by *that* are used for epistemic perception:

(24) Ich sehe, dass Maria schon weggefahren ist. (epistemic perception)

I see that Maria already left is

‘I see that Mary has already left.’

### 2. Event Perception

The inventory of German EPCs overlaps perfectly with Romance, with the only difference that in German *wie*-completives are much more common (25). Infinitives are also well attested (see Fuß et al. 2017),<sup>14</sup> and their semantic subject can be null when it is generic (26). This is evidence for the EPC-status of infinitival clauses in German:

(25) Ich sah, wie sie aus dem Wagen stieg.

I saw how she out.from the car got

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<sup>13</sup> For a comparison between completive clause introduced by *that*, by *how*, and infinitival sentences, see Clément (1971). Felser (1999) discusses infinitival complements and prepositional infinitives headed by *am*.

<sup>14</sup> Fuß et al. show that infinitival clauses occur mostly in literary texts, and that its use has dramatically decreased (more than 33%) in the last three decades.

‘I saw that she got out of the car.’

(adapted from Bayer 1986: 33)

(26)a Ich habe (Paul) noch nie so viele Fehler machen gesehen.

I have Paul yet never so many errors make.INF seen

‘I have never seen Paul/someone make so many errors.’

b Ich habe im Zimmer schreien gehört und bin erschrocken.

I have in.the room cry.INF heard and am scared

‘I have heard someone crying in the room and got scared.’

As Bayer (1986) puts it, in *wie*-completives the complementiser ‘possibly incorporates manner of action, state of the actor during the action as well as the temporal setting of the perception in one.’ (Bayer 1986: 33). Thus, it has to be kept separate from the cases in which *wie* means ‘in which manner’ or heads a temporal adverbial clause (see §4.1).<sup>15</sup>

### 3. Individual Perception

German has a similar inventory of IPCs: as predicate we find adjective phrases (27), prepositional phrases (28), past and present participles (29)–(30), prepositional infinitives (headed by the prepositions *am* or *beim* followed by a nominalised infinitive,<sup>16</sup> (31–32)); and finally SWs (33). See §4 for a detailed discussion of SWs.

(27)Ich habe \*(dich) noch nie so glücklich gesehen!

I have you yet never so happy seen

‘I’ve never seen you that happy!’

(28)a Ich sah \*(sie) im Auto.

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<sup>15</sup> For a discussion of the different functions of *wie* see also Vater (1975), Zimmermann (1991), Wegener (2013).

<sup>16</sup> The use of different prepositions is related to structural differences (Felser 1999: chapter 5).

I saw her in car

‘I saw her in the car.’

b Ich sehe \*(dich) in Schwierigkeiten.

I see you in troubles

‘I see that you’re in trouble.’

(29) Luise sah ihre Mutter in Tränen aufgelöst.

Luise saw her mother in tears dissolved

‘Luise saw her mother in tears.’

(30) Jesus fand seine Jünger schlafend.

Jesus found his disciples sleeping

‘Jesus found his disciples sleeping.’

(31) Ich sehe sie beim Schlafen

I see her at=the sleep.INF

‘I saw her sleeping.’

(32) Wir haben sie das Auto am Reparieren sehen<sup>17</sup>

we have her the car at.the repair see

‘We saw her repairing the car.’

(Felser 1999: 205)

(33)a Ich sah die Anna, wie sie zu Boden fiel.

I saw the Anna how she to ground fell

‘I saw Anna falling to the ground.’

b Ich schaue ihm zu, wie er Pizza bäckt.

I look him at how he pizza bakes

‘I watched him baking pizza.’

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<sup>17</sup> Note that when the perception verb is in an analytic past form, the participle can also be replaced by an infinitive (so-called IPP, *Infinitivus pro Participio*), see Felser (1999).

## 2.4 Recap

Table 1 summarizes the constructions that can be used with perception verbs in Romance languages and in German. The overlapping is striking: all constructions that are found in German are also found in Romance, with minor differences regarding the frequency, stylistic preference and the exact realisation of the prepositional infinitive.<sup>18</sup>

An open question is the relationship between the last construction of both language groups: do PRs and SWs have the same structure? On the one hand, the two constructions use a different complementiser (*that* and *how*, respectively), which could point to larger differences. On the other hand, the overall overlapping between German and Romance constructions makes us wonder whether the correspondence between the perception constructions of German and Romance is complete, since PRs and SWs would be the only case in which the two language groups diverge.

We can answer this question only through a syntactic analysis, which must be preceded by a detailed observation of the properties of PRs and SWs. Thus, in §3 I discuss the properties and structure of Romance PRs, and in §4 I turn to German SWs. On the basis of this comparison, I then propose that both constructions have the same structure: they are both SCs in which the subject is merged in Spec-CP.

	Romance languages	German
<b>Epistemic perception</b>	- Complement clause with <i>that</i>	- Complement clause with <i>that</i>
<b>Direct perception of an Event (EPC)</b>	- Complement clause with <i>how</i>	- Complement clause with <i>how</i>

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<sup>18</sup> Of course, this does not necessarily imply that all constructions have the same syntactic structure in both Romance and German. A precise comparison of all perception constructions is beyond the scope of this article, which focuses on PRs and SWs only.

	- Infinitival clause	- Infinitival clause
<b>Direct perception of an Individual involved in an Event (IPC)</b>	<ul style="list-style-type: none"> <li>- Adjectival Phrase</li> <li>- Prepositional Phrase</li> <li>- Past participle clause</li> <li>- Gerund/Prepositional infinitive /Present participle</li> <li>- <b>Pseudo-relative clause</b></li> </ul>	<ul style="list-style-type: none"> <li>- Adjectival Phrase</li> <li>- Prepositional Phrase</li> <li>- Past participle clause</li> <li>- Prepositional infinitive /Present participle</li> <li>- <b>Subject-<i>wie</i> clause</b></li> </ul>
<b>Table 1:</b> The realisation of different types of perception in Romance and German		

### 3. Properties of Pseudo-relative clauses

In this section I mostly summarize Casalicchio's (2016a) description and analysis of PRs. I first discuss their most important properties (§3.1), and in §3.2 I present their distribution, focusing on perception verbs. Finally, in §3.3, I illustrate the analysis proposed in Casalicchio (2016a), and I resume the main points in §3.4.<sup>19</sup>

This discussion, which is mostly based on the existing literature, will be the starting point for the analysis of German SWs (§4).

#### 3.1 Properties of Pseudo-relative clauses

This section lists the main peculiarities of PRs, which distinguish them from ordinary relative clauses (see Radford 1975, 1977, Graffi 1980, Guasti 1988, 1992, Cinque 1992, Rizzi 1992, Casalicchio 2013, 2016a, a.o.).

<sup>19</sup> The discussion of Romance predicative constructions is mainly based on Italian, but most Romance languages show very similar patterns (see e.g. Radford 1975 and Koopman & Sportiche 2014 for French, Campos 1994 and Herbeck 2019 for Spanish).

1. The antecedent of a PR can be a proper name or a clitic pronoun:<sup>20</sup>

(34)a Vedo Marco che corre. Italian

I.see Marco that runs

‘I see Marco running.’

b Lo vedo che corre.

him.CL I.see that runs

‘I see him running.’

2. PRs are formed with the complementiser *che* only, and never with a relative pronoun. In French, the form *qui* is required:

(35)Vedo Marco che / \*il quale corre.

I.see Marco that the which runs

‘I see Marco running.’

(36)Je vois Marie qui / \*que mange. French

I see Marie QUI QUE eats

‘I see Maria eating.’

3. The verb in the PR has anaphoric tense: the event described by the PR and the event of perception must overlap at least partially. This requirement is not found in ordinary relative clauses:

(37)a Ho visto Lucia che mangiava / \*mangia / \*mangerà. Italian

I.have seen Lucia that ate eats will.eat

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<sup>20</sup> Note that proper names (but not clitics) can also be the antecedent of non-restrictive relative clauses.

‘I saw Lucia eating.’

4. There is a general subject-object asymmetry: the antecedent of the PR is usually coindexed with its subject (38). However, in some cases it can be coindexed with the (null) object, provided that the subject is a generic *pro* (39):<sup>21</sup>

(38)a Ho visto Luana che \_\_\_\_ salutava Silvia.

I.have seen Luana that greeted Silvia

‘I saw Luana saying hello to Silvia.’

b \*Ho visto Luana che Silvia salutava \_\_\_\_.

I.have seen Luana that Silvia greeted

(39)Ho visto Maria che *pro* / \*i rapinatori la inseguivano \_\_\_\_.

I.have seen Maria that the robbers her.CL chased

‘I saw Maria being chased.’

5. The predicate in the PR must be an event that is in progress. Therefore, a stage-level verb is required, while states and modal verbs are usually excluded (40)((40a) and (41a)). The same holds for negation: normally, we cannot perceive something that is *not* happening. However, when it is possible to give an interpretation of direct perception, modal, stative, and negated verbs are also possible:

(40)a \*L’ho visto che aveva un figlio

him.CL=I.have seen that had a son

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<sup>21</sup> The status of the PRs whose antecedent is coindexed with the object is still debated: for Italian, Casalicchio (2013) analyses them as ‘reduced’ PRs, which miss the projections above TopicP; Graffi (2017), on the other hand, does not consider them as PRs at all. For Spanish, Campos (1994) signals their grammaticality in his (Mexican) variety, while Rafel (2000) argues that these are not true examples of PRs, but rather of an adverbial use of the *que*-clause. Recently, the absence of the subject-object asymmetry in Spanish has been discussed by Herbeck (2019) (see also §3.3).



b L'ho visto che aveva le lacrime.

him.CL=I.have seen that had the tears

'I saw him having tears in his eyes.'

(41)a \*L'ho sentito che non cantava.

him.CL=I.have heard that not he.sung

b L'ho sentito che non voleva cantare.

him.CL=I.have heard that not she.wanted sing

'I heard him refuse to sing.'

The (a) examples of (40-41) show that a stative or negated verb are ruled out in PRs. However, in the (b) examples, they are possible: in fact, having tears (40b) is different from having a son (40a), because it refers to a perceivable and temporary event. In (41b), there are even two elements that should rule out the sentence: a negation and a modal verb. However, the sentence can be rescued if we imagine a context in which a famous singer is giving a concert, but he refuses to come up on stage for some reason and thus start shouting to his collaborators that are trying to convince him. The example (41b) can thus be rescued with the meaning that I hear that the singer is expressing his refusal loudly. Thus, these examples show that the ungrammaticality of modal, stative and negated verbs is not syntactic, but semantic.

6. Finally, PRs are islands for extraction in Italian:

(42)\*Cosa hai visto Paolo che comprava cosa?

what you.have seen Paolo that bought was

### 3.2 Distribution

The main context for PRs is perception constructions, especially with verbs like *see*, *hear*, *feel*, *watch*,

*observe, listen to*. In addition, several verbs with the meaning ‘discover with the senses, catch someone’ also allow PRs. In Italian, e.g., we find among these verbs *sorprendere* (‘catch’) and *trovare* (‘find’):<sup>22</sup>

(43) L’ho                      sorpreso / trovato   che fumava       in camera.

him.CL=I.have   caught       found       that he.smoked in room

‘I caught/found him smoking in his room.’

In the literature there is disagreement on whether PRs also occur in other contexts (see e.g. Cinque 1992 and Casalicchio 2013, 2016a in favour, and Graffi 2017 against this opinion). Some examples are the so-called absolute construction (Ruwet 1978, Casalicchio 2015) and the depictive use:

(44) Con Maria   che parla sempre, è       difficile riposare.

With Maria   that talks   always   it.is difficult rest

‘Since Maria keeps talking, it is impossible to have a rest.’

(45) Mangiai la   pizza   che fumava.

I.ate       the   pizza   that smoked

‘I ate the pizza smoking.’

As support for the analysis of these cases as PRs, Cinque shows that they occur exactly in those contexts in which other types of secondary predicate (such as APs or PPs) occur; Casalicchio extends this argument with a cross-linguistic comparison, observing that, at least in Italian, PRs are used exactly in the same contexts in which Spanish uses gerunds and European Portuguese prepositional infinitives (see the examples in (22)).

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<sup>22</sup> Note that otherwise *sorprendere* and *trovare* are bivalent, taking just a direct object. Moreover, when it is bivalent *sorprendere* does not mean ‘catch’, but ‘surprise’.

### 3.3 Tests for the syntactic structure and analysis

If we adopt Cinque's (1992) and Casalicchio's (2016a) proposal, it follows almost naturally that PRs are SCs, since they occur exactly in the same contexts in which other types of SC (APs and PPs) occur.<sup>23</sup> Further evidence comes from coordination: PRs can be coordinated with adjectival or prepositional SCs, a phenomenon that is immediately accounted for if PRs are SCs as well:

(46)a Ho visto Gianni in lacrime e Maria che lo consolava.

I.have seen Gianni in tears and Maria that him.CL comforted

'I saw Gianni with tears in his eyes and Maria comforting him.'

b Ho visto Anna in ginocchio e che pregava.

I.have seen Anna in knee and that prayed

'I saw Anna on her knees and praying.'

Finally, PRs are not syntactically independent, a property shared with all types of SC:

(47)\*Paolo che mangiava / in lacrime / triste

Paolo that ate in tears sad

Analysing a construction with an inflected verb as a SC may seem surprising, since this is not exactly what we would expect in a 'small' construction. I adopt here Belletti's (2008) proposal: despite of its name, the constitutive property of SCs is not 'smallness', but instead the fact that they have a Subject-Predicate configuration: in formal terms, they are characterised by an EPP-feature in a position higher than the predicate:

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<sup>23</sup> A SC-analysis for PRs was first discussed by Haik (1985), and then also proposed by Cinque (1992), Rafel (2000), Casalicchio (2013, 2016a), a.o. Here I summarize the proposal made in Casalicchio (2016a).

(48) [<sub>SC EPP</sub>[Subject] [Predicate]] (adapted from Belletti 2008: 9)

Note that the fact that PRs are SCs with a Subject-Predicate configuration is perfectly in line with the fact that they are a categorical predication (i.e., IPCs), in which the subject is singled out from the event (§2.2).

Casalicchio (2016a) proposes that PRs are CPs that have the following structure:<sup>24</sup>

(49) PRs: [<sub>SC=ForceP</sub> Maria<sub>i</sub> che [<sub>TP</sub> pro<sub>i</sub> balla]] (adapted from Casalicchio 2016a: 36)

In this structure, the antecedent of the PR is directly merged in Spec-ForceP, i.e. in a position outside the vP-TP space in which subjects are merged.<sup>25</sup> It is coindexed with a *pro* in Spec-TP, which gets a theta-role and nominative case from the verb.

Hence, the antecedent is not moved from below but merged in Spec-ForceP, and it is coindexed with a *pro* in Spec-TP. This proposal is backed up by a test based on reconstruction effects with psych-verbs: the superficial subject of psych-verbs can be the anaphor of the object in raising, but not in control, constructions (cf. (50a) with (50b)), see Belletti and Rizzi 1988). If we apply this test to PRs, they behave like control structures in not allowing reconstruction (50c):

(50)a I proprii figli sembrano disgustare Gianni. (Raising)  
 the own children seem disgust Gianni  
 ‘His own children seem to disgust Gianni.’

<sup>24</sup> Note that analysing PRs as CPs with a full TP also allows modal, stative and negated verbs to occur in the structure – as stated in §3.1, whenever they are ruled out it is for semantic, and not for syntactic, reasons.

<sup>25</sup> The position of the antecedent and the complementiser in ForceP is shown, among other things, by the fact that they can be followed by topics hosted in TopP:

(i) Aldo che a Roma ci porta pure Mario? Non ci credo!  
 Aldo that to Rome there.CL takes also Mario not to.it.CL I.believe  
 ‘Aldo is also taking Mario to Rome? It’s incredible.’ (Casalicchio 2016a: 34)

b \*I propri<sub>i</sub> figli credono di disgustare Gianni<sub>i</sub>. (Control)

the own children believe to disgust Gianni

c \*Vedere i propri<sub>i</sub> figli che disgustano Gianni<sub>i</sub> mi dispiace.

see.INF the own children that disgust Gianni me makes.sorry

(adapted from Casalicchio 2016a: 37-8)

In (49), PRs have a clausal nature. This is justified by some tests in which the PR is resumed by a neuter proform:

(51) Vidi [Maria che cantava]<sub>i</sub>, e anche Luca lo<sub>i</sub> vide.

I.saw Maria that sang and also Luca it saw

‘I saw Maria singing, and Luca saw it, too.’

However, as shown by Cinque (1992), in other contexts PRs show a nominal nature. This is shown by coordination with a simple DP (52a) and by the resumption through personal pronouns (52b):

(52)a Vidi [il bambino] e [DP sua mamma che lo rincorreva].

I.saw the child and his mum that him.CL run.after

‘I saw the child and his mum running after him.’

b Chi<sub>i</sub> hai visto? [DP Fabio che dormiva]<sub>i</sub>.

who you.have seen Fabio that slept

‘Who have you seen? Fabio sleeping.’

Finally, in some cases the antecedent and the PR behave as separate constituents, e.g. when the antecedent alone moves higher up in the structure, as in passives or when the antecedent is cliticised (see also (43)):

(53) Paolo<sub>i</sub> fu visto ~~Paolo<sub>i</sub>~~ che rubava.

Paolo was seen that stole

‘Paolo was seen stealing.’

To account for this non-uniform behaviour, Casalicchio (2016a) proposes that the basic structure of PRs (49) can be:

i) selected as such by the verb (structure (55a))

ii) be embedded in a complex DP (52), see structure (55b)

iii) be embedded in a ‘Larsonian’ structure: verbs like *sorprendere* are trivalent when they select a PR (43). In this case I propose that they behave like ditransitive verbs; more precisely, Spec-VP hosts the antecedent, while the PR, headed by a PRO coindexed with the antecedent, is in the complement position (55c).<sup>26</sup>

Sentence (54) can thus have three different structures, shown in (55):

(54) Vidi / Sorpresi Paolo che fumava.

I.saw I.caught Paolo that smoked

‘I saw/caught Paolo smoking.’

(55)a Vidi [<sub>ForceP</sub> Paolo che fumava]

b Vidi [<sub>DP</sub> Paolo<sub>i</sub> [<sub>ForceP</sub> PRO<sub>i</sub> che fumava]]

c Sorpresi [<sub>VP</sub> Paolo ~~sorpreso~~ [<sub>ForceP</sub> PRO<sub>i</sub> che fumava]]

Note that (55a) is a classic case of Exceptional Case Marking (‘ECM’): *Paolo* is merged in the Left Periphery, which is not a position for Case checking/assignment. For this reason, it gets accusative case from the main verb, although the complement of *vidi* is not *Paolo* alone, but the whole CP.

<sup>26</sup> The structures in (55) are simplified versions; cf. Casalicchio (2016a) for the details of this analysis, and Graffi (2017) especially for a discussion of the Larsonian structure of PRs.

Finally, the island property of PRs (see §3.1, property 6), is accounted for by proposing that PRs are phases: elements that are not in the edge of the PR cannot be extracted (see also Graffi 2017).

### 3.4 Recap

To summarise the discussion of this section, the syntactic behaviour of PRs suggests that they are SCs. More specifically, they are ForcePs in which the antecedent is merged in Spec-ForceP, on the left of the complementiser *che* in Force<sup>o</sup>. As a consequence, the structure is not the result of an underlying completive clause (*Ho visto che Gianni ballava* ‘I saw that John danced’) to which subject movement has applied (‘subject-to-object raising’): it is a completely different structure, as also confirmed by the semantic differences between completive clauses and PRs in perception constructions (see §2).<sup>27</sup>

In the next section I discuss the properties of German SW-constructions, in order to compare them with Romance PRs. I show that they behave syntactically in the same way, and thus propose that SWs have a structure that is very similar to that of PRs.

## 4. The German Subject-*wie* construction

The previous section was devoted to PRs in Romance, with a focus on Italian. I suggested that they are SCs in which a Subject-predicate configuration occurs, with the antecedent (i.e., the semantic subject) merged in ForceP.

The question now is if the same – or a similar – analysis applies to German SWs. In order to make the comparison more easy, the structure of this section mirrors the section on PRs (§3): I first discuss the properties of SW-constructions (§4.1), then their syntactic distribution in German (§4.2), and finally I propose an analysis based on syntactic tests, that corresponds to the analysis of PRs discussed in §3.3. The section concludes with a summary of my proposal.

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<sup>27</sup> This analysis holds for Italian, but it has to be tested for other Romance languages, in which a "subject-to-object" mechanism (as recently proposed by Herbeck 2019) may be at work.

#### 4.1 Properties of the Subject-*wie* construction

The properties of PRs listed in §3.1 were discussed especially with the aim of distinguishing them from ordinary relatives. Evidently, SWs cannot be confused with relative clauses, but in this case there may arise an ambiguity with temporal adverbial clauses, where *wie* corresponds to ‘when’, see Zimmermann (1991).

The ambiguity between SWs and adverbial clauses leads Vater (1975) to consider (56–57) as synonymous:

(56) Ich sah Hans, wie er das Fahrrad stahl.

I saw Hans how he the bike stole

‘I saw Hans stealing the bike.’

(57) Ich sah Hans, als er das Fahrrad stahl.

(Vater 1975: 218)

I saw Hans when he the bike stole

‘I saw Hans when he stole the bike.’

However, at least in my variety of German there is good evidence for keeping (one reading of) (56) separate from (57). The relevant properties are:<sup>28</sup>

1. In SWs, both the antecedent and the event are perceived. In adverbial clauses, on the other hand, only the direct object is necessarily perceived, see:

(58)a \*Ich sah den Hans, wie<sub>Perc.</sub> er noch ein Kind war.

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<sup>28</sup> To make the comparison between SWs and temporal *wie*-clauses clearer, in this paragraph I denote the introducer as *wie*<sub>Perc</sub> and *wie*<sub>Temp</sub>, respectively. To be sure to judge appropriately the examples of SWs, it is necessary to always choose a reading that implies a direct perception.



b Ich sah den Hans, wie<sub>Temp.</sub> / als er noch ein Kind war.

I saw the Hans how when he still a child was

‘I saw Hans when he was still a child.’ (=58b))

Note that under normal circumstances being a child is not a property that can be perceived as such, since it is an individual-level predicate. Thus, SWs are ruled out here (58a).

2. Only SWs require that the object of the main clause be coindexed with the subject of the embedded clause (59). Note that, as in PRs, a coindexation with the object is marginal if the subject of the SW is impersonal (60):

(59)a \*Ich sah den Hans<sub>i</sub>, wie<sub>Perc.</sub> der Paul ihn<sub>i</sub> schlug

b Ich sah den Hans<sub>i</sub>, wie<sub>Temp.</sub> / als der Paul ihn<sub>i</sub> schlug

I saw the Hans how when the Paul him hit

‘I saw Hans when Paul hit him.’ (=59b))

(60) Ich sah den Hans<sub>i</sub>, wie<sub>Temp.</sub> / als die Glocken läuteten.

I saw the Hans how when the bells rang

‘I saw Hans when the bells were ringing.’

3. The position of SWs is not free, because they must follow the antecedent. Adverbial clauses, instead, can precede or follow the main clause:

(61)a \*Wie<sub>Perc.</sub> er<sub>i</sub> auf den Bus wartete, wurde der Hans<sub>i</sub> gesehen.

how he for the bus waited was the Hans seen

b Wie<sub>Temp.</sub> / als er<sub>i/j</sub> auf den Bus wartete, wurde der Hans<sub>i</sub> überfahren.

how when he for the bus waited was the Hans run.over

‘When he was waiting for the bus, Hans was run over.’

4. If two or more SWs are coordinated, they can refer to events that took place one after the other, as in the real example (62). Since temporal adverbial clauses offer an anchoring for the main clause, a one-after-the-other reading would be at least odd (63):<sup>29</sup>

(62) ein Polizist sagte aus: „Ich habe ihn gesehen, wie<sub>Perc</sub> er zwei Flaschen reingeworfen hat, wie<sub>Perc</sub> er mit dem Fuß gegen die Glasscheibe getreten hat und wie<sub>Perc</sub> er nach einem Karlsruher Fan getreten hat.“ (COSMAS II, NUZ13/JUL.01484 Nürnberger Zeitung, 17.07.2013, S. 14)

‘a policeman declared: ‘I saw him throwing two glass bottles, kicking the glass sheet and kicking a fan of the Karlsruhe team.’

(63) #Ich habe ihn gerufen, wie<sub>Temp</sub>/als er zwei Flaschen reingeworfen hat, wie<sub>Temp</sub>/als er mit dem Fuß gegen die Glasscheibe getreten hat und wie<sub>Temp</sub>/als er nach einem Karlsruher Fan getreten hat.

‘#I called him when he was throwing two glass bottles, when he was kicking the glass sheet and when he was kicking a fan of the Karlsruhe team.’

5. There is also a difference in distribution: SWs only occur with verbs of perception (including verbs of discovery, (64)), while the occurrence of adverbial clauses is not restricted by the main predicate (65):

(64) Die Polizei fand / \*verhaftete ihn, wie<sub>Perc</sub> er Falschgeld druckte.

the police found arrested him how he counterfeits printed

‘The police found/\*arrested him printing counterfeits.’

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<sup>29</sup> Sentence (63) becomes grammatical if we interpret the action of calling as iterative (‘I called him three times: when he..., when he..., and when he...’). However, this is not the case for (62), where the natural reading is that there was a single perception process.

(65) Die Polizei verhaftete ihn, wie<sub>Temp</sub> / als er Falschgeld druckte.

the police arrested him how when he counterfeits printed

‘The police arrested him, while he was printing counterfeits.’

Note also that the meaning of *finden* (‘find’) changes when it selects an SW: (64) does not imply a searching process that leads to a finding, but it rather has the meaning of *vorfinden*, *ertappen* (‘find, catch’): the police may have found him printing counterfeits just by chance, while they were looking for somebody/something else; see §4.3.

6. The predicate of SWs must be perceivable, thus modal, stative and negated verbs are only possible (but marginal<sup>30</sup>) when a perception reading can be forced (as in PRs, cf. (66) with (41)). This restriction does not hold in adverbial clauses (67):

(66)a \*Ich sah sie, wie<sub>Perc</sub> sie Englisch lernen wollte.

I saw her how she English learn wanted

b ?Ich sah sie, wie<sub>Perc</sub> sie nicht singen wollte.

I saw her how she not sing wanted

‘I saw her refusing to sing.’

(67) Ich lernte sie kennen, wie<sub>Temp</sub> / als sie Englisch lernen wollte.

I learned her know how when she English learn wanted

‘I met her when she wanted to learn English.’

7. A further property of SWs is their islandhood status for extraction (as PRs; note that this also holds for temporal *wie*-clauses):

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<sup>30</sup> Not all speakers accept sentences like (66b).

(68) \*Was<sub>i</sub> hast du die Judith gesehen, wie<sub>perc</sub> sie kaufte ~~was<sub>i</sub>~~?

what have you the Judith seen how she bought what

8. Finally, a property that is peculiar to SWs is the obligatory resumption of the antecedent through a subject pronoun – but not through other (pro)nominal elements (see §4.3):

(69)a Ich sah den Peter, wie<sub>perc</sub> er / \*dieser / \*der / \*dieser Kerl in den Zug stieg.

I saw the Peter how he this this this guy in the train got

‘I saw Peter getting on the train.’

b Sie warnte den Peter<sub>i</sub>, wie<sub>temp</sub> er / dieser / dieser Dummkopf<sub>i/j</sub> ohne zu

she warned the Peter how he this this fool without to

schauen überqueren wollte.

look cross wanted

‘She warned Peter, when he/this fool was about to cross the street without looking.’

## 4.2 Distribution

As noted in §4.1, SWs are used with perception verbs only, including with those that describe a perception-based discovery, such as *finden* (‘find’) (70) or *entdecken/ertappen* (‘discover, catch’)

(71).<sup>31</sup>

(70) Mit dem Dröhnen seiner zwei Weltkriegspanzer hat ein Dresdner die Nachbarn aufgeschreckt.

Die alarmierte Polizei fand ihn, wie er seine Runden drehte. (COSMAS II T00/OKT.47842 die tageszeitung, 16.10.2000, S. 7)

<sup>31</sup> Note that with some of these verbs it is particularly difficult to establish whether the *wie*-clause is an SW or an adverbial clause, but the examples (70-71) cited in the text are clear cases of SW because in (70) the subject within the *wie*-clause must be a subject pronoun (demonstratives or DPs are excluded). In (71), on the other hand, the verb *entdecken* (‘discover’) usually does not take a person as a complement, cf. (71) with \**Zweimal entdeckte ich ihn* (see §4.3 for the analysis).

‘A man of Dresden scared his neighbours with the noise of two Panzers from the WW2. The police found him making his rounds.’

(71) Zweimal entdeckte ich ihn, wie er einen Mann oder eine Frau küsste [...] <sup>32</sup>

twice discovered I him how he a man or a woman kissed

‘I discovered him twice kissing a man or a woman.’

There is no other context in which SWs occur, unlike Italian PRs; cf. the following examples with

(45)(45) – note that adjectival and prepositional SCs are ok here: <sup>33</sup>

(72)a \*Ich esse die Pizza am liebsten, wie sie noch raucht.

I eat the pizza at=the best how she still smokes

b Ich esse die Pizza am liebsten warm / mit den Händen.

I eat the pizza at=the best warm with the hands

‘I prefer to eat the pizza warm/with my hands.’

#### 4.3 Tests for the syntactic structure and analysis

In order to compare SWs with PRs, the first question to address is whether SWs are also SCs or not.

We have seen in §4.2 that the distribution of SWs does not completely overlap with adjectival and prepositional SCs. There are two possible explanations for this: either SWs are not SCs, or they are, but their distribution is more restricted for other, independent reasons. To decide between these two possibilities, we can use the coordination test (both with the same and with a different antecedent; see

<sup>32</sup> Real example found in a translation of Jodi Meadows’ novel *Incarnate* ([https://books.google.it/books?id=2il\\_yohNHQ0C&pg=PT113&lpg=PT113&dq=%22fand+ihn+wie%22&source=bl&ots=JXgM09kg4U&sig=ACfU3U0y5NMlfMKCyvTor0j2tRUqi57KkA&hl=it&sa=X&ved=2ahUKEwiHnKzYwbkAhXJ3KQKHbBfCNwQ6AEwAnoECAkQAQ#v=onepage&q=%22fand%20ihn%20wie%22&f=false](https://books.google.it/books?id=2il_yohNHQ0C&pg=PT113&lpg=PT113&dq=%22fand+ihn+wie%22&source=bl&ots=JXgM09kg4U&sig=ACfU3U0y5NMlfMKCyvTor0j2tRUqi57KkA&hl=it&sa=X&ved=2ahUKEwiHnKzYwbkAhXJ3KQKHbBfCNwQ6AEwAnoECAkQAQ#v=onepage&q=%22fand%20ihn%20wie%22&f=false)).

<sup>33</sup> However, this is not a strong argument against a correspondence between PRs and SWs, because PRs are also more restricted in some Romance languages, especially in Portuguese and Spanish. On the other hand, this may mean that (46) is not a true PR, either (as claimed by Graffi 2017).

also (62) for a real example of coordination):

(73) Ich fand die Maria in Tränen aufgelöst und den Johann, wie er sie tröstete.

I found the Maria in tears dissolved and the Johann how he her comforted  
'I found Maria crying desperately and Johann trying to comfort her.'

(74) Ich fand die Maria in Tränen aufgelöst und wie sie nach Trost suchte.

I found the Maria in tears dissolved and how she for comfort looked  
'I found Maria crying desperately and looking for comfort.'

Since it is possible to coordinate SWs with other types of SC, I propose that they be considered as SCs as well, and that their more restricted distribution (see (72)) must be due to independent reasons.

The next step is to define the internal structure of SWs. Recall that for PRs we adopt Casalicchio's (2016a) proposal that PRs are ForcePs that can be selected as such by the matrix verb or be embedded either into DPs or in a 'Larsonian' structure. As far as SWs are concerned, consider the cases in which a verb selects the antecedent and the SW as two separate arguments. As in Romance, these are verbs of discovery, such as *finden* ('find') or *entdecken* ('discover') (see §4.1-2), which are usually bivalent, but acquire a different semantics (and thus a different argument structure) when they select a SW:

(75)a Ich fand ihn.

I found him  
'I found him.'

b Ich fand ihn, wie er schlief.

I found him how he slept  
'I found him sleeping.'

(76)a Kolumbus entdeckte \*den Hans / Amerika.

Columbus discovered the Hans America

‘Columbus discovered \*Hans/America.’

b Kolumbus entdeckte den Hans, wie er eine Meuterei plante.

Columbus discovered the Hans how he a mutiny planned

‘Columbus discovered Hans planning a mutiny.’

As confirmed by the *Duden*, the semantics of *finden* changes in the two examples of (75): in (75a) it means ‘find something/someone by chance or after a search’, while in (75b) it is ‘find someone in a specific condition’ (*vorfinden* in German).<sup>34</sup> The examples in (76), on the other hand, show that *entdecken* has a different semantics when it is bivalent (‘discover something’) vs. when it is trivalent (‘discover someone doing something’). If we were to analyse the SW in (76b) as adjunct (and thus assign the same argument structure to (76a) and (76b)), we would expect *Hans* to be a proper object of (76a) as well. Most importantly, the same effects apply to Italian *sorprendere* (see footnote 21).

It is now necessary to establish whether SWs can also form a single constituent together with its antecedent and, if this is the case, which type of XP this constituent is. I think that there is good evidence for a ‘monoclausal’ status of SWs (in addition to the biclausal one discussed above), as they can be interrogated and resumed by a proform:<sup>35</sup>

(77) Ich sah [die Maria, wie sie im Geschäft stahl]<sub>i</sub>,

I saw the Maria how she in=the shop stole

und die Verkäuferin bemerkte es<sub>i</sub> auch.

and the saleswoman noticed it also

‘I saw Maria stealing in the shop, and the saleswoman also noticed it.’

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<sup>34</sup> The relevant definitions of the *Duden* are ‘1. zufällig oder suchend auf jemanden, etwas treffen, stoßen; 2. in bestimmter Weise vorfinden’ (<https://www.duden.de/rechtschreibung/finden>).

<sup>35</sup> In principle, the fact that the antecedent can always be separated from the SW through intervening constituents - in particular past participles - could be taken as evidence for a biclausal analysis only. However, German is characterised by a series of “extraposition” contexts: various types of constituents, including relative clauses and PPs, can be split (for discussion on these effects, whose analysis is still under debate, see Müller (1996), Koster (2000), Kiss (2005), and Catasso & Hinterhölzl (2016), a.o.

(78) Was<sub>i</sub> / ?Wen<sub>i</sub> hast du gesehen? [Die Maria, wie sie Tango tanzte]<sub>i</sub>  
 what whom have you seen the Maria howshe tango danced  
 ‘What/whom did you see? Maria dancing tango.’

These examples concern resumption with a neuter proform, indicating that the SW here has a clausal nature. On the other hand, if we use the personal form *wen* (‘whom’) to test whether a SW can be embedded in a DP, the speakers’ judgements show more variation. However, other tests, such as the coordination with a DP, seem to point to the fact that this embedding is indeed possible:

(79) Sie sah [ein Kind] und [DP dessen Mutter, wie sie ihm nachrannte].  
 she saw a child and his mother how she him run.after  
 ‘I saw the child and his mother running after him.’

SWs show thus systematic correspondences with PRs, and therefore I propose that their basic structure is a ForceP (81) that constitutes a phase (and thus is an island for extraction); it can be selected as such by the verb or it can be embedded in a DP (82b) or in a ‘Larsonian’ structure (exactly like PRs), (82c):

(80) Ich sah / fand den Paul, wie er rauchte.  
 I saw found the Paul how he smoked  
 ‘I saw/found Paul smoking.’

(81) [<sub>SC=ForceP</sub> den Paul<sub>i</sub> wie [<sub>TP</sub> er<sub>i</sub> rauchte]

(82)a Ich sah [<sub>ForceP</sub> den Paul<sub>i</sub> wie er rauchte]

b Ich sah [<sub>DP</sub> den Paul<sub>i</sub> [<sub>ForceP</sub> PRO<sub>i</sub> wie er<sub>i</sub> rauchte]]

c Ich fand [<sub>VP</sub> den Paul<sub>i</sub> ~~fand~~ [<sub>ForceP</sub> PRO<sub>i</sub> wie er<sub>i</sub> rauchte]]



I suggest that SWs are phases, like PRs. This explains why they are islands for extraction, as shown in (68).

In (81) the antecedent is merged in Spec-ForceP. This is not only due to the parallel with PRs, but also to clear syntactic evidence, based on the contrast between SWs and other constructions involving a nominal element in the Left Periphery: left-dislocations (*Linksversetzungen* in German) and Hanging Topics. Left dislocated elements, which I take to be moved to TopP from the lower part of the clause (following Grewendorf 2009), require resumption through the weak demonstrative *der/die/das*:

(83) Der Paul<sub>i</sub>, der<sub>i</sub> rauchte.

the Paul this smoked

‘Paul smoked.’

Hanging Topics, on the other hand, are usually analysed as externally merged in the topmost projection of the clause (see e.g. Benincà & Poletto 2004). Due to their peripheral position, they always show up in the nominative case and can be resumed through various pronominal and nominal elements:

(84) Der Paul<sub>i</sub> – sicher hat dieser Kerl<sub>i</sub> wieder mal verschlafen.

the Paul surely has this guy again once overslept

‘Paul – for sure this guy has overslept again.’

As shown in (69), in SWs the antecedent must be resumed through a personal pronoun. Demonstratives and nominal elements are excluded, see (69), repeated here:

(69) Ich sah den Peter, wie<sub>perc</sub> er / \*dieser / \*der / \*dieser Kerl in den Zug stieg.

I saw the Peter how he this this this guy in the train got

‘I see Peter getting on the train.’

This example clearly shows that the structure of SWs can neither be compared to Left dislocations, nor to Hanging Topics. Therefore, I suggest that the antecedent is base generated in ForceP, as in Italian, which is also the common projection for complementizers.<sup>36</sup>

Finally, note that there is also a semantic argument against movement of the antecedent in both PRs and SWs: if they were the result of the movement of the antecedent from within the clause, PRs and SWs would be derived from completive clauses. This would be problematic on semantic grounds, because completive clauses are never IPCs, but they express epistemic perception (in Romance *that*-clauses) or they are EPCs (in German completive *wie*-clauses) (§2.2-3).

#### 4.4 Recap

In this section I dealt with the properties and distribution of SWs; based on this discussion, I propose to analyse SWs as SCs with the same structure as PRs. In particular, I showed that SWs are not the results of subject-to-object raising, i.e. an anteposition of an element of the clause; rather, the antecedent is merged directly in Spec-ForceP. This fact is fully compatible with the concept of SCs as ‘subject-predicate relations’ (Belletti 2008), in which the subject is singled out from the event (Basilico 2003).

The only point in which there is only a partial overlapping between PRs and SWs is their distribution. However, the distribution of PRs is a complex issue, because it is not even homogeneous within the Romance domain: it ranges from a large distribution in Italian (the language on which this analysis is based) to an extremely restricted use in European Portuguese (Raposo 1989), with Spanish being

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<sup>36</sup> I also exclude that the antecedent be merged in FocP, because foci are not resumed. On the other hand, in principle the antecedent may be merged in FinP. All things being equal, this hypothesis seems more costly than ForceP, because it would imply that the antecedent is merged in Spec-vP together with the resumptive subject pronoun (possibly in a BigDP, as proposed for left dislocations in Grewendorf 2009). However, to the best of my knowledge we do not have any other instance of BigDPs in which the resumptive element is a subject pronoun.

in between.

For the moment, we leave the explanation of the differing distribution – both within PR in Romance and between PRs and SWs – open.

## **5. Conclusions**

In this chapter I have discussed the syntax of PRs and SWs. The observations on PRs that have been gathered in the last forty-five years allowed me to approach SWs, an almost ignored construction, in a systematic way. In particular, the fact that SWs share most of their properties with PRs led me to the conclusion that they must have a similar syntactic structure. This proposal is suggested by an overall comparison of all perceptive constructions available in Romance and in German, which show a striking overlapping. The syntactic data we have analysed in this chapter also strongly point to this conclusion. The only difference, namely their distribution, is probably due to independent factors and is not related to the syntactic structure itself – otherwise we would expect differences in the syntactic tests as well.

The chapter has dealt with two constructions that have experienced a radically different treatment in the literature to date: PRs were discovered and discussed even before the birth of the Government and binding theory, and over the decades more and more studies in different generative frameworks have dealt with them. SWs, on the other hand, are only briefly mentioned in some papers focusing on other constructions (e.g. temporal clauses or completive perception clauses). In some of these studies they are even ignored (e.g. Felser 1999). I have turned this misbalance in our favour, by taking advantage of the overall knowledge we have reached on PRs, mapping all their properties and applying the same tests to a construction that is almost unknown in the generative literature.

The conclusions I have reached on SWs show how fruitful a comparative view is: both within genetically related languages (as the Romance varieties) and between languages or language groups that belong to different families, as is the case in this chapter. This contrastive approach could be usefully extended to the analysis of the overall system of perception constructions, in particular to

infinitival clauses, whose status is still debated.

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