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on mobile eye-tracking data

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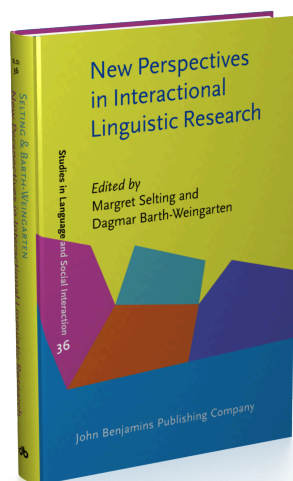
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# Noticing and assessing nature

## A multimodal investigation of the format “perception imperative + exclamative” based on mobile eye-tracking data

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We analyze how walkers employ a verbal format, i.e., the combination of a perception imperative followed by a *wie* ‘how’-exclamative (e.g., *KUCK ma wie TRAUMhaft das is*; ‘look PTCL how wonderful that is’), in its multimodal embedding, thus contributing to a multimodal extension of interactional linguistics. The analysis heavily relies on mobile eye-tracking as a method to collect naturally occurring data. It is argued that this kind of analysis would not be possible without the use of this novel technology. We focus on the role of the verbal format in the process of transforming individual perceptions into intersubjective experiences of nature, for which the precise documentation of gaze is essential. It is shown that the interactional function of this combined format is to draw the co-walker’s attention to an object in the surroundings and to express an affective stance towards it, treating the noticed referent as noteworthy and remarkable.

**Keywords:** noticing, assessment, perception imperative, exclamative, German, walking and talking, eye-tracking, joint attention, intersubjective experience of nature, mobile interactions

### 1. Introduction

Experiencing nature together on a walk, for instance in the forest, presupposes a particular kind of intersubjectivity, for the establishment of which a whole array of verbal and bodily practices is relevant. Sharing observations and discoveries in situ is just as central for this kind of intersubjectivity as the negotiation of evaluative stances. These and the verbal and bodily resources employed for them

are the topic of this chapter. We will focus on a particular constructional format which we found recurrently in our data, i.e., the format “perception imperative + exclamative” (as in: *kuck mal wie SCHÖN der is*. ‘look PTCL how beautiful that one is’) and its multimodal embedding, including gaze, posture, pointing, and body movement. Using eye-tracking technology for tracing participants’ gazes, we are able to demonstrate how individual experiences are transformed into inter-subjective ones, thereby going beyond traditional, video-based interaction studies. We thereby contribute to the growing body of interactional studies that have demonstrated the advantages of this new technology.

## 2. Background

### 2.1 Walking together

The social activity of “walking together” has received relatively little attention in multimodal interactional linguistics. It is evident that the mere act of walking together, typically in a side-by-side constellation, requires a high amount of mutual monitoring and fine-scaled bodily coordination. This holds particularly true when the space in which the moving dyad or group maneuvers is crowded with other humans (cf. Goffman 1963 on “gatherings”), or when the environment, for instance obstacles or narrow paths, or the affordances of the architecture (cf. Jucker et al. 2018) require adaptations of speed and spatial adjustments such as shifts between side-by-side and front-to-back arrangements. “Walking together” therefore has to be seen as an interactional achievement in which the negotiation of interactional space is considerably more complex than in the often-investigated stationary settings.

The verbal and bodily practices of “walking together” may differ according to

- the walkers’ aims (walking in its own right such as leisure walks, to which forest walks usually belong, vs. walks in order to reach a destination, i.e., in order to move from one location to another),
- the walks’ length and its physical requirements (strolls vs. hikes, etc.),
- the number of participants (dyads vs. groups),
- the walkers’ acquaintance with the way (making way-finding activities essential or superfluous),
- the guide/novice distinction (one person leading the way and the other(s) following),
- the environment in which the walk takes place (such as city vs. nature), among other things.

A number of researchers have investigated the use of language and bodily resources in structured walks, in which groups of people jointly move from one “station” to the next in an itinerary (typically, one of them being the “guide”), and analyzed the practices used to make a group of walkers stop and resume walking (Stukenbrock and Birkner 2010; De Stefani 2010; De Stefani 2013; Mondada 2014a and b). There is also some research on the transition from walking into standing, or from standing into walking (departures) in other contexts (vom Lehn 2013; Broth and Mondada 2013; Mondada 2014b and c). Few have addressed joint walking and talking as such (cf. Ryave and Schenkein 1974; Schmitt 2012; Relieu 1999; Steger 2019). Mondada (2014b) shows how the two activities necessitate fine-tuned temporal adjustments.

Obviously, some of the basic features of the organization of conversational interaction among people in a stationary setting do not apply in the case of “walking and talking”. We mention just a few:

- While stationary settings are typically the home of highly focused verbal encounters in our culture (but see, e.g., Blythe et al. 2018 for an Australian aborigines’ perspective), during which silence is marked, walks (and particularly “pleasure walks”) allow for extended periods during which the participants are in an “open state of talk” (Goffman 1981: 134–5). During these periods, the resumption of verbal interaction is possible at all times without formal opening routines being required. Therefore, periods of silent walking together typically alternate with those in which focused verbal interaction occurs. On some walks, talking may be in the foreground (participants may even meet for a walk in order to talk something through), in others, the walk itself is central.
- During phases of verbal interaction throughout a walk, participants are usually in a side-by-side constellation (sometimes even in a front-to-back situation, when walking one after another), never in a circular, L-shaped or vis-à-vis formation, as walking requires visual forward-orientation. Even though the human eye allows peripheral vision at an angle of appr. 200°, walking reduces the availability of gaze for monitoring co-participants. While in other types of F-formations (cf. Kendon 1967; Goodwin 1980; Rossano 2013), dyads are characterized by a very high amount of mutual and particularly recipient-gaze, recipients in walking dyads look at the speaker much more rarely, and even less than speakers look at recipients (Auer and Laner, submitted).
- When talk occurs, it can be “situated” (anchored in the origos of the speakers, i.e., referring to objects or events in the participants’ perceptual field, cf. Auer 1988; Auer and Stukenbrock 2022) or “displaced” (not anchored in the origos of the speakers). This is also the case in stationary settings, but as the envi-

ronment continuously changes for mobile dyads, the chances for noteworthy objects and events to occur during displaced speech, which occasion the transition into situated speech, are much higher (cf. Goodwin and Goodwin 2012 for the organization of “noticing” among participants riding in a car). In addition, the very purpose of (some) walks in nature being the experience of nature makes attention to the perceivable environment essential. Situated talk is therefore privileged and takes precedence over ongoing displaced talk among walkers.

## 2.2 Walking together in nature

When walking through the forest, we may not simply “be in” nature, but actively engage with it. We may experience the forest sensually, for example by discovering plants and mushrooms, touching tree bark, grinding pine needles between our fingers, inhaling resinous scents, or listening to bird songs. In joint nature walks, these activities of engaging with nature usually are not solitary activities; rather, the walkers frequently share their experiences among themselves, thus turning their subjective experiences into intersubjective ones (see Rauniomaa et al. 2021). Consequently, nature is not simply something external that is “to be searched for in the appearances of the environment” (Burckhardt 2006: 33, our translation), but nature is, in a sense, created by the observers themselves, as well as in social interaction.

Our focus will be on acts of referring to, and talking about, noteworthy objects in nature and their transformation from subjective into intersubjective experiences. Hence, we focus on the transition from individual perceptions (by one person, hence a cognitive act) to interactional noticings during walks in the forest. By “doing noticing” together, speakers retrospectively make something interactionally relevant that one of them, or both independently, have perceived individually in the environment, i.e., they turn it into a “noticeable” (see Schegloff 2007: 219). We are interested in the ways in which joint attention (Tomasello 1995: 106f.) to such noticeables is established and how participants use verbal and bodily resources to do so.

While interactional noticings have recently met with a considerable amount of scientific attention (cf. Sacks 1995: 87–97; Schegloff 1988, 2007; Kääntä 2014; Anna and Pfeiffer 2021; Laner 2022; Goodwin and Goodwin 2012; Keisanen 2012; Laanesoo and Keevallik 2017; Stivers and Rossano 2019; Szymanski 1999), only a few studies have discussed noticings that occur in “vehicular units”, i.e., while moving through space (e.g., shopping together at an outdoor market: Stukenbrock and Dao 2019; or driving a car, cf. Goodwin and Goodwin 2012; Keisanen 2012, among others).

### 3. The constructional format “perception imperative + *wie* ‘how’-exclamative”

In our data, we found two verbal practices that are particularly relevant for creating shared experiences in nature while walking through the forest:

- Perception imperatives such as *kuck/guck* or *schau* ‘look!’, often followed by the modal particle (“Abtönungspartikel”) *mal* (short for *einmal*, lit. ‘one time’; cf. Laner 2022).
- *Wie* ‘how’-exclamatives, i.e., phrases or verb-last clauses introduced by the particle *wie* (e.g., *wie des GLITzert*; ‘how that one sparkles’); they express an affective stance and can occur with evaluative or descriptive terms.

We zoom in on combinations of both forms (e.g., *kuck mal wie SCHÖN der is*. ‘look PTCL how beautiful that one is’) that have a twofold function: establishing joint attention to a noticeable and expressing stance to it. We compare the combined format with (a) perception imperatives without ensuing exclamatives, and (b) exclamatives not preceded by perception imperatives, arguing that in each case, different practices are involved.

#### 3.1 Perception imperatives

The imperatives of the German visual perception verbs *gucken/schauen* ‘look’ are regularly used as discourse markers (cf. Günthner 2017 and Proske 2017 for German; van Olmen 2011 for English). Here, however, we analyze them in their original deictic function, i.e., as part of multimodal packages used to direct the recipients’ sensual (usually visual) attention to an object, state, or event. Whether the perception imperatives are used in one way or the other strongly depends on the setting: In settings in which engaging with the immediate surroundings is not a main concern (such as “dinner conversations”), *guck/schau* ‘look’ is predominantly used as a discourse marker (cf. Deppermann 2021: 201, 203; Günthner 2017: 105). In contrast, in settings in which the surroundings are part of the activity, the imperative is primarily used to direct the recipient’s visual focus of attention (Laner 2022: 9f.; see also Siitonen et al. 2021: 2 for Finnish). In our data, *guck* and *schau* ‘look’ almost solely occur in their deictic function, i.e., in situated speech. In this use, they can be described as part of multimodal adjacency pairs in which the imperative functions as the first pair part and the bodily (and verbal) reaction of the recipient as the second pair part (cf. Stukenbrock 2009: 300, 2015: 63; Laner 2022: 13).

Perception imperatives often do not occur alone. While Siitonen et al. (2012: 5) state that the Finnish perception imperative *kato* ‘look’ is usually accom-

panied by an explicit mention of the referent, this is not the case for noticings with the German perception imperatives: Laner (2022: 10) shows that *guck/schau (mal)* ‘look’ (+ modal particle) can be followed by various formats. One of them, namely *wie*-exclamatives, will be the focus of this chapter. For French, Mondada (2014c, and particularly 2012) distinguishes between the format *regardez* + projected noun phrase and the format *voyez* with an emergent, but non-projected NP as used by guides in guided tours through a nature park to draw the visitors’ attention to an object, often to an unexpected noticeable, which is then explained to the visitors (both mean ‘look!’). She argues that the first format is used for fleeting noticeables (such as insects) while the second format is used for stable, immobile noticeables such as plants.

### 3.2 *Wie* ‘how’-exclamatives

Exclamatives are defined functionally as “expressing a spontaneous sensation of unusualness towards a state of affairs or dimensions of a state of affairs, which is treated as presupposed” (Zifonun et al. 1997: 153, our translation). Thus, what all exclamative formats have in common is that they express a “deviation from expectation”, which can either refer to the fact that a certain state of affairs holds at all (“fact-exclamative”) or to the degree to which a gradable property holds for a certain object (“degree-exclamative”) (Zifonun et al. 1997: 671). From a syntactic perspective, they form a heterogeneous group including structures with the finite verb in first, second, and last position, and with or without introductory *wh*-elements or subjunctions. Both the large range of different forms and the functional definition of the category have led to a debate about whether exclamatives constitute a sentence mode in their own right along with the declarative, interrogative, and imperative sentence mode (see Näf 1987 and Meibauer et al. 2013 for an overview of this controversy) or whether they should rather be treated as an interactional modality. We follow the latter view and use the term “exclamative” instead of “exclamative mode” or “exclamative sentence”.

In our data, perception imperatives only occur together with exclamatives introduced by a *w*-element, most commonly *wie* ‘how’ and *was* ‘what’. The adverb *wie* ‘how’ has been referred to as “*quantopere-wie*” (Näf 1987: 145) in this context, since, in contrast to the “*quomodo-wie*” (ibid.) used in questions, it has a “gradual meaning” (D’Avis 2013: 188). The *quantopere-wie* is only compatible with adjectives or verbs that have a gradable meaning (cf. Näf 1996: 141), e.g., *wie TRAUMhaft das is*; ‘how wonderful that is’, *wie des GLITzert*; ‘how that one sparkles’.

In *wh*-exclamatives, we generally find variation regarding the position of the finite verb, which can be placed in second or last position. However, in our collection of examples of the format “perception imperative + *wie*-exclamative”, only

the verb-last format occurs. Similarly, among the *wh*-exclamatives without preceding perception imperative, we find predominantly the verb-last format, whereas the verb-second format (which was excluded from this study) occurs only rarely.

*Wh*-exclamatives with the finite verb in last position are usually described as “in subordinate clauses” (cf. Evans 2007; Maschler 2020), as they occur without a superordinate matrix clause.<sup>1</sup> It could be argued that the perception imperatives provide this superordinate matrix clause and take the following subordinate *wie*-clause as a complement. However, a closer look at the semantics of subordinate *wie*-clauses casts doubt on this argument. It is assumed that embedded *wh*-clauses can have an exclamative meaning if they are embedded under an exclamative predicate like *überrascht sein* ‘to be surprised’ (cf. D’Avis 2001) (e.g., in the invented example “Ich bin überrascht, wie traumhaft das ist!” ‘I am surprised how wonderful that is!’). This is not the case in our examples. *Gucken* and *schauen* ‘(to) look’ do not express surprise or amazement and, therefore, cannot be considered exclamative predicates. If the *wie*-clauses in our collection were indeed subordinate (like, for instance, in the invented utterance “Guck mal, wie teuer das ist.” ‘Look how expensive that is.’ used to ask someone to check the price of a car they are both inspecting), they would not have an exclamative, but rather an interrogative meaning, i.e., the state of affairs described by the *wie*-clause would be unknown to the speaker rather than presupposed, and the *wie*-clause would express a factual information, not unexpectedness. In our opinion, the most plausible explanation for the fact that the *wie*-clauses in our examples do not behave like interrogative clauses is that they are not subordinate, i.e., the perception imperative does not take the *wie*-clause as a complement. Rather, they are syntactically independent from each other, which leads to an exclamative meaning of the *wie*-clause. Indeed, they do not fulfill a different function compared to free-standing *wie*-exclamatives without preceding perception imperative. In all our examples, *wie* has a degree meaning and is part of a phrase or clause expressing an affective stance.

Our argument is supported by the observation that exclamatives are often preceded by elements like interjections, discourse markers, or address forms. This suggests that exclamatives exhibit a pre-positioned “slot” that can be filled for different interactional purposes. The perception imperative can be seen as occupying this slot, directing the recipient’s attention to an object relevant for the following *wie*-exclamative.

There is a large body of research on exclamatives in German which is based on constructed examples (e.g., Altmann 1987, 1993), written language corpora

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1. See, however, D’Avis (2001), who argues for a categorization of certain subordinate *wh*-clauses as exclamatives.

(e.g., Auer 2016; Näf 2021), and experiments (e.g., Batliner 1988; Repp 2019). In contrast, the use of exclamatives in interactive contexts has hardly received attention (but see Anna and Pfeiffer 2021 on young children's use of exclamatives). The only contribution that investigates exclamatives in spontaneous interactions among adults is Pfeiffer (2016). He shows that *wh*-exclamatives are primarily used to express the speaker's stance towards sensorily (most often visually) perceived objects in the environment, and to accomplish different social actions, among them noticings and assessments.

#### 4. Data and methods

Our analysis is based on a corpus of 12 recordings of couples walking through the Black Forest National Park, each walk with a duration of 80–120 minutes. The participants wore eye-tracking glasses,<sup>2</sup> which allows for a precise analysis of their gaze behavior while talking and walking through nature. The glasses, which are light and unobtrusive and have no brims that could impede peripheral vision, have two in-built infra-red cameras that record the movements of the speakers' pupils (installed in the frames of the glasses to the left and right of the speaker's nose) through reflections on the cornea, with a sampling rate of 50Hz. They capture the movement of foveal ("central") vision. The glasses further include a scene camera that records a part of the speaker's field of vision (peripheral vision is not fully captured). For analysis, the video of the scene camera and the recordings of the tracking cameras are overlaid. A tracking cursor shows the speaker's gaze fixations on the images of the scene camera. The two eye-tracking recordings were synchronized and arranged on a split screen using Adobe Premiere Pro CC. Eye-tracking allows us to record the walkers' gaze behavior, which would not be possible using video-recordings; the latter are almost impossible during longer walks, since co-walking video-recording investigators are highly obtrusive (particularly, as the video-recording investigators would need to walk ahead of the recorded participants in small distance in order to capture their gaze/head movements). Hence, we believe that eye-tracking is the first technology which makes a thorough investigation of walking and talking possible. It thereby opens up new avenues for research.

We identified all *wie*-exclamatives in our data. We found 22 cases of *wie*-exclamatives, of which 13 instances follow the format "perception imperative + *wie*-exclamative".

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2. Tobii Pro Glasses 2: <https://www.tobii.com/de/produkte/tobii-pro-glasses-2/> (last accessed on May 25, 2022).






Transcription follows GAT2 (Selting et al. 2009) with additions for multi-modality in separate lines underneath the verbal transcript (following Mondada 2017; Merlino and Mondada 2019; see also the Appendix to this volume) and an iconic representation of the two walkers' gaze and bodily position as seen from a bird's eye perspective. Here, dashed arrows indicate downward-looking, straight arrows stand for looking ahead. The extension of the iconically depicted constellation is indicated by curled brackets within the verbal transcript.<sup>3</sup> At positions marked by "#fig.n", screenshots with the same number show the view from the two participants' perspectives as captured by their scene cameras at this point in time (the cursor-like circles indicate the area of foveal vision).

## 5. The format and its multimodal embedding

We start with two examples that demonstrate the combined use of imperative and exclamative, to proceed in Section 6 to those cases in which only one of the two components is employed. We will show that they occur in specific contexts which are different from those in which the practice of combining the two elements can be found. In this section, we show how the combined format serves to establish joint attention and negotiate a common experience of nature.

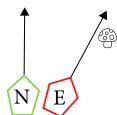
At the beginning of our first extract (lines 1–2), Ella (walking on the right side) and Nina (walking on the left side) are still engaged in displaced (not deictically situated) speech. These lines are the end of a narrative about a friend of Ella's. While she produces an utterance that potentially closes the narrative, we observe

3. For a detailed description of the symbols used in the transcripts cf. Laner (2022).  
Conventions for the transcription of gaze:

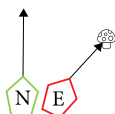
	Pentagons above the verbal transcript iconically represent the two walkers (with their initials) and their bodily orientation
	Arrows indicate the walkers' gaze directions (in cases of momentary tracker malfunctions, no arrows are shown)
	Dashed arrows indicate that the person is gazing downwards
	Curved arrows indicate bodily reorientations (e.g., turning towards the object of reference)
	Various icons represent the objects of reference
1 {verbal trans}{cript}	Curly brackets indicate the scope of the iconically illustrated gaze behavior above the verbal transcript

(via eye-tracking her gaze) that she turns slightly to the right in the direction of the object which will become a “noticeable” in the following sequence.

**Extract 1.** Fliegenpilz ‘toadstool’ (NLP, VP0102, 00:20:39)



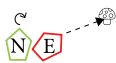
1 Ella: mal schauen {ob er meinen einlauf WAHRnimmt;  
let's see if he understands my dressing down



2 o}{der #fig.1 ERNST nimmt.  
or takes it seriously



#fig.1

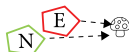


3 -> #(0.3){KU\_ma wie thh-}  
look\_PTCL how thh-  
Ella: #points at mushrooms-->



4 {%(0.6)} #-->  
Nina: %stops, turns to the right, and passes behind Ella  
to walk to the mushrooms-->

5 Nina: <<p>mh\_[hm.]> #--> %-->



6 ->Ella: \*[w ] geil# die anei{NANder gewachsen sind.} %-->  
h(ow) cool they've grown into one another  
Ella: \*walks closer to mushrooms-->



7 {(1.3)\*%

8 (0.6) ((both look at mushrooms))

9 Nina: <<whispering>ECHT verrückt.>}  
really crazy

As the two women keep walking, Ella lowers her gaze to look at a mushroom for the first time (line 2, #fig.1). While as observers we have good reason to believe that she “saw something” at that moment (at the latest), this perception remains on the level of Ella as an individual; her co-walker, even though she may have perceived Ella’s head and torso movement to the right in her peripheral vision, keeps walking and looking ahead and shows no orientation to this individual act of “seeing”. At this point (line 3, after a short silence), Ella engages in a package of verbal and bodily practices. She turns even more to the right, initiates a pointing gesture, which she will hold until line 6, and starts producing the combined format “perception imperative + exclamative”. Her *KU\_ma wie thh-* ‘look PTCL how thh-’ (line 3) consists of the imperative *kuck* followed by the particle *mal* (these two syllables are contracted into one trochee) and the *wie*-element of an ensuing structure which projects a *wie*-exclamative. However, Ella does not produce the entire format but breaks off after *wie* with a sound that can be heard as a subdued laughing particle (a dental plosion followed by a long exhalation). This package is enough to make Nina turn to Ella’s side. In the following short silence, the two women stop walking at the height of the noticeable object; note that this stopping occurs at the last possible moment before the walking couple would have passed the object and joint attention to it would have required them to look and turn back. Nina now also looks at the object on the ground (big toadstools). Both participants start walking closer to the mushrooms in order to reach a position from which they can “inspect” them closely.<sup>4</sup> In order to do so, Nina, who had been walking on the left, has to leave her position and walk behind Ella so that she can position herself close to the mushrooms (lines 4–7). This repositioning together with her gaze and a low-voiced *mhm* can be taken to indicate that joint attention has been established. In recognition of this joint attention, Ella withdraws her pointing gesture (line 6). Shortly before Nina has reached her “inspection position”, Ella continues with the production of the already projected exclamative (line 6). It includes a first assessment (*[w] geil die aneiNANder gewachsen sind*, ‘h(ow)- cool they’ve grown into one another’) which picks out one particular feature of the inspected object, i.e., its shape. Other possible noteworthy features of the noticeable, such as the fact that they are toadstools (which are very rare in Germany), their size or color, are not verbalized and therefore not made salient. During the production of the exclamative, the two women are still standing close

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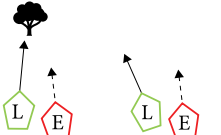
4. Some of our noticing sequences, including the present Extract 1, share a number of characteristics with the “inspection sequences” described by Mortensen and Wagner (2019). For instance, the visual sense is dominantly involved (although Mortensen and Wagner discuss examples of tastings as well), the walkers reduce the distance between the body and the inspectable object, and slow down or stop their body movements for the inspection.

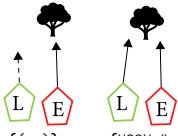
to the mushrooms and inspecting them. After appr. 2 seconds of inspection, Nina produces a second assessment in line 9, *ECHT verrückt* ('really crazy'), in a whispering voice, thereby underlining the exceptional and therefore noteworthy status of the object to which Ella has drawn her attention.

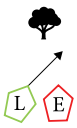
In this extract, joint attention is established on an object which is treated by both participants as truly remarkable. Both participants invest a considerable amount of interactive "work" in co-constructing this status. They both interrupt their walk in order to inspect the object closely and at length. Via the exclamative, Ella makes it clear that for her, the mushrooms are remarkable objects, an "unusual deviation" from the expected. In addition, the way in which the exclamative is formulated displays her (positive) evaluation of the noticeable (*geil* 'cool') and picks out the feature she is most impressed with (the mushrooms having grown into one). Her co-participant shares Ella's stance via a second, even upgraded assessment, which underlines the noteworthiness of the object. The noticing has not only made an object in the surroundings part of the two participants' joint attention, but it has also established a joint experience of nature; the two walkers have experienced something remarkable together, not only individually.

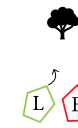
Our second example is much less complex since the noticeable appears in the distance right in front of the walkers. Consequently, they do not have to turn or stop to inspect the object but can look at the referent while walking and gazing ahead. In the first lines (1–2) of this extract, Lola and Emil are talking about where they need to continue their walk before Emil notices a big pine tree ahead of them.


### Extract 2. Kiefer 'pine tree' (NLP, VP1718, 00:28:04)


1 Lola:  `{hier gEht.s jetzt wieder} {links}`  
*here it goes up to the left again*  
 Lola: `#points to the left-->`

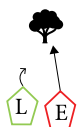
1 Lola:  `{(--)} {HOCH.#}`


2 Emil:<sup>5</sup>  `j}a. (1.29)`  
*yes*

2 Emil:<sup>5</sup>  `{(0.19)}`

2 Emil:<sup>5</sup>  `{(0.11)}`

3 ->  `#fig.2{ku_ma wie schön die} {KIEfer} {da %aussieht.%}`  
*look\_PTCL how beautiful that pine tree looks*

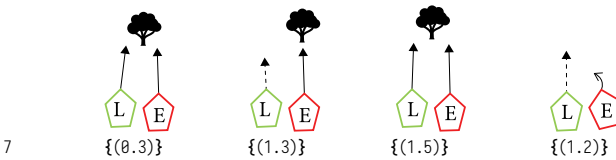
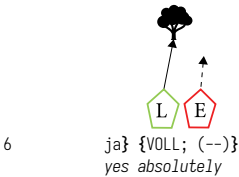
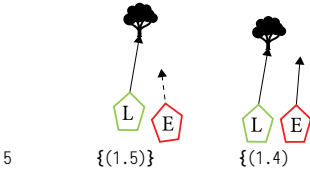
Emil:  `{(0.11)}`

Emil:  `{(0.11)}`  
 Emil: `%points at pine tree%`



#fig.2

4 Lola: m\_hm. (1.4)}



During her initial utterance (line 1) which is concerned with way-finding, Lola, who is walking on the left, points, and directs her gaze, to the left, away from Emil, who is walking on the right. The pointing gesture and gaze which co-occur with this utterance are prepared by and linked to the deictic adverbial *hier* 'here' and indicate the way they should take. During the production of the turn, both Lola and Emil already gaze at a pine tree in front of them; Emil's gaze also fixates it, which can be taken as evidence for individual perception. This tree will become the referent of the following exchange. (Lola looks in the direction of the tree in the beginning of her way-finding utterance as well as during its end, Emil towards the end.) However, while Lola's gaze turns away to the right after her turn is finished (during the pause in line 2) and while she looks down to the ground during the beginning of Emil's following turn, Emil keeps his gaze on the tree during

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5. Due to a malfunction of the tracking device, Emil's gaze is not transcribed here, but it can be inferred from the fact that his head does not move during this short silence that he keeps his look straight ahead.

his response to Lola's statement ('yes', line 2), the following silence, and the subsequent realization of the format "perception imperative + exclamative" (line 3). His sustained gaze at the tree makes it likely that the "perception imperative + exclamative" format in line 3 is cognitively prepared during this period. All this occurs before the pine tree becomes an interactionally relevant object. This changes once the perception imperative is uttered.

In this example, the two components of the format, the perception imperative (plus the particle *mal*) and the *wie*-exclamative are delivered in one go. When Emil produces the utterance-final verb (*aussieht* 'looks') of the exclamative, he additionally points at the tree.

Other than in the first example, Emil assesses the noticeable as "beautiful" but does not say which feature of the tree in particular his evaluation is based on. Lola immediately aligns with a simple *m\_hm* and continues looking at the tree (lines 4, 5), while Emil has already averted his gaze from the noticeable. In line 6, she affiliates with Emil, now using a strong agreement token ('yes absolutely'). This closes the noticing/assessment sequence, although the topic "pine trees" continues past the silence in line 7.

Once more, the combined format "perception imperative + exclamative" is used in order to introduce a new referent into the conversation via a noticing, and at the same time in order to assess it. The format crucially contributes to turning an individually seen feature of the situational environment into an intersubjectively experienced object in nature on a forest walk.

In our third example, the two walkers are once more engaged in displaced speech. Finn is telling Jule that he would love to work in game development and create games which depict nature in a realistic way and which can help players to appreciate nature. During this, and before he has reached a possible completion of the turn (line 2), his gaze turns to a little cave on his left that is full of moss and shifts to situated speech (line 4). For the noticing, he again uses the "perception imperative + *wie*-exclamative" format.

### Extract 3. Moos 'moss' (NLP, VP2728, 01:25:04)

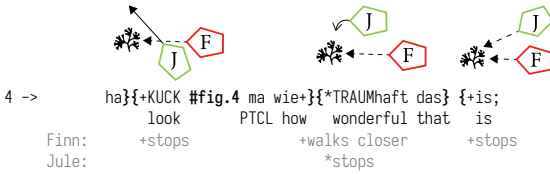
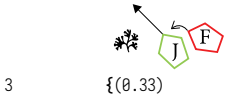


1 Finn: { =aber #fig.3 was ich halt sEhr COOL finde; =  
but what I think is very cool

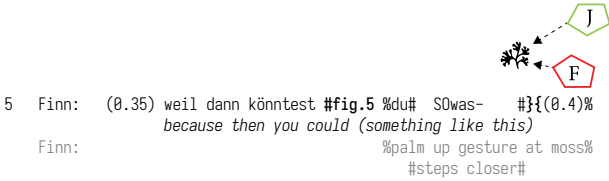


#fig.3

2 =und DAS (---) haben sie mir lEider meine <<laughing> iDEE genOmmen;>}  
 and that they have unfortunately taken my idea





#fig.4





#fig.5

6 (0.5)

- 7  du} {hast die} {Möglichkeit das visuell UNglaublich  
you have the option to visually recreate that incredibly

  
eindrucksvoll dar}{}zustellen;=}  
spectacular

- 8   
{=dass du WIRKlich auch die grüßen}  
that you can really see the special

  
{dimen}  
dimensions

- 9 Jule: [*<<creaky>j*].a.>]  
yes

At the beginning of this extract, both walkers are gazing to the left while Finn talks about an idea for a game development that was “taken” from him (lines 1–2). In the short break that follows (line 3) Finn starts to turn even more to the left and then suspends his displaced speech in mid-sentence to produce the noticing *ha KUCK ma wie TRAUMhaft das is*; ‘look PTCL how wonderful that is’ (line 4). During the production of his turn, he stops to let Jule pass him, walks closer to the referent, and then stops again. At the same time, Jule stops as well after having passed Finn and turns around to the noticeable. Right at the end of Finn’s utterance, both of them are facing the cave with the moss and inspecting it (end of line 4). Jule does not respond to the noticing verbally, although the silence after Finn’s turn provides a space for her. However, her bodily reaction to the noticing (stopping, turning around, and gazing at the referent) seems to be sufficient for acknowledging the noticeable (at least the speaker does not treat it otherwise). Subsequently, Finn connects the noticeable to the topic of his displaced speech (lines 5–9).

In this sequence, the perception imperative (plus the particle *mal*) and the *wie*-exclamative are again delivered without an intervening pause. The speaker does not produce a pointing gesture with it, suggesting that in addition to the format itself, Finn’s very strong bodily orientation towards the object is sufficient to guide the recipient to the object of reference. Note also that the speaker walks

closer to the moss behind the recipient; therefore, a pointing gesture would not be observable by the recipient at this point. His later gesture in line 5 is a presentational and perhaps evidential gesture (palm facing upwards, cf. Kendon 2004: 210; Stukenbrock 2015: 141–149), which presents the little cave that is covered by moss as an example of the beauties of nature which he as a developer would try to visually recreate in a video game.

This third example is purely evaluative. The combined format “perception imperative + exclamative” is used to make a new object relevant for the interaction and to assess it at the same time.

## 6. Solitary uses of perception imperatives or *wie* ‘how’-exclamatives

In this section, we show how the two components of the format discussed so far are used alone. We begin by discussing two extracts in which only a perception imperative is used, without an ensuing exclamative, and continue with two cases in which only a *wie*-exclamative is used, without a preceding perception imperative.

### 6.1 Only the perception imperative is used

German perception imperatives only rarely occur alone. In our data, we only found 10 out of 183 cases of perception imperatives that were not accompanied by any other linguistic expressions. Commonly, the perception imperatives *guck* (or its variant *kuck*) and *schau* are followed by deictic expressions, assessments, statements about specific characteristics of the referent, and so on (for a more detailed discussion, see Laner 2022: 9f.).

The following extract documents one of the exceptional cases in which the perception imperative is used alone. The speaker refers to a red hiking sign that indicates that the participants are on the right path (the participants of the study were told to follow these red signs on their route through the Black Forest National Park). Gaze is only transcribed in lines 1–4 for reasons of space.

**Extract 4.** Rote Raute ‘red sign’ (NLP, VP2122, 00:28:38)

1 ->Iris: #fig.6 {AH #scha} {u;=  
oh look  
Iris: #points at sign-->



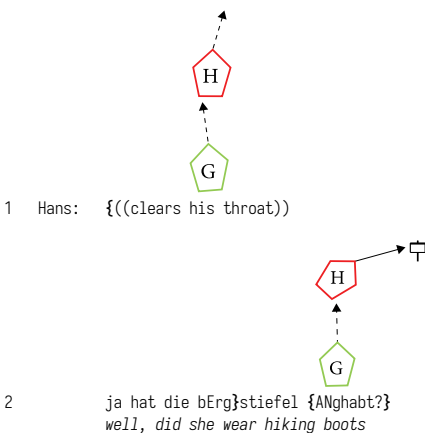
reached it; there is a short moment of joint attention (Stukenbrock 2020) before the two participants avert their gazes from the sign while continuing their walk. There is, however, no “inspection” phase during which the noticeable object is being examined.

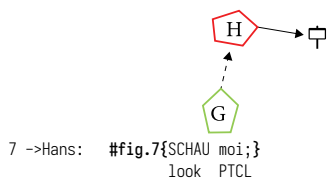
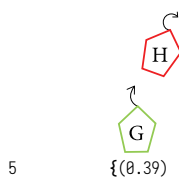
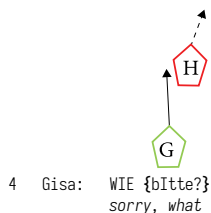
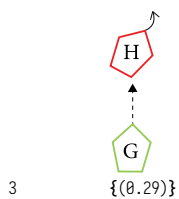
Here, the perception imperative is clearly not about initiating a shared experience of nature but rather about the walkers’ reassuring themselves that they are still on the right path. This also becomes apparent in what follows the perception imperative: Anke does not assess the object itself, but rather the sighting of the red sign, which is *super* (line 3), as it shows that the walkers are ‘lucky’ (line 6 *GLÜCK gehAbt*) that they are ‘not yet lost’ (line 7 *nich verlAufen*).

Most stand-alone perception imperatives in our data work like this. There is only one case in which the walkers stop in front of the noticeable as a response to the perception imperative and jointly look at it for some time. However, even in this case, gazing together at the object does not imply its inspection. In this example (Extract 5), one participant has spotted a small information board that informs hikers about a wild lake that can only be reached by advanced hikers.

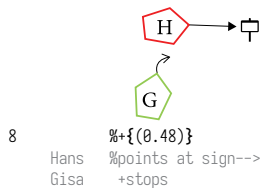
In lines 1–4 of Extract 5, Hans (walking ahead) and Gisa (walking behind) are still engaged in displaced speech. They are talking about what kind of shoes their daughter’s friend is wearing (their daughter and her friend are hiking through the National Park at the same time). Already in line 2 we see Hans’ gaze on a little board. The shift into situated speech in lines 5–7 occurs after a repair initiation by Gisa (line 4), i.e., it interrupts an ongoing sequence, proving that situated speech can occur at all times and takes precedence over displaced speech, regardless of sequential considerations of well-placedness.

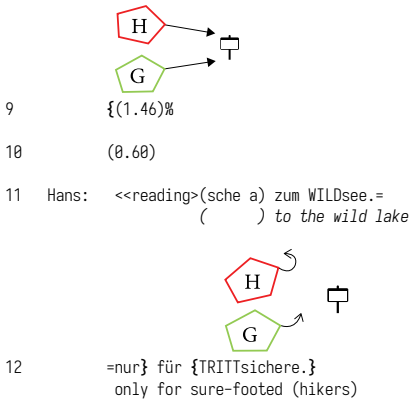
**Extract 5.** Wildseetafel ‘information board’ (NLP, VP0910, 00:39:35)





#fig.7





As Hans' gaze returns to the board (line 5), he stops (line 6) and then produces the perception imperative *schau moi* 'look' + particle<sup>6</sup> (line 7). While Gisa stops and starts turning as well (line 8), he points at the board. From line 9 onwards, the two co-participants' gazes are directed at the board, while they are reading the information written on it. Hans reads out the text in lines 11 and 12. Then, both turn away in the direction of walking.

Here, the perception imperative in combination with the particle *moi* is used to initiate a joint reading of a public text written on the board. This requires some time, during which both participants' gazes are directed at (different parts of) what is written on the board. But this activity of reading together is different from the activity of "inspecting" a noticeable, as we found it in Extracts 1, 2 and 3. The purpose is not to experience the noticeable object jointly, but to read the message of the text for the passers-by. Consequently, the object is not treated as an "assessable" but as something from which walkers can gather information.

## 6.2 Only the *wie* 'how'-exclamative is used

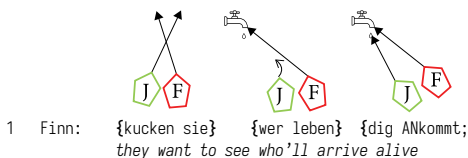
In this section we show that if the recipient already gazes towards the relevant object, and this gaze can be perceived by the speaker, a stand-alone *wie*-exclamative is used. This observation holds for all free-standing *wie*-exclamatives in our collection. We argue that speakers can recognize their co-walkers' (visual) orientation at the to-be-assessed object by looking at them directly or monitoring them in their peripheral fields of vision. Moreover, in some cases, prior talk about the noticeable object additionally assures that it is part of the common ground. By not using a per-

6. *Moi* is dialectal for *mal*.

ception imperative preceding the *wie*-exclamative, speakers design their turn in a way that treats the assessable as a presupposed discourse referent.

In our first example, the two walkers are again engaged in displaced speech, when first Finn (walking on the right side and joking about the aim of the study: ‘they want to see who’ll arrive alive’, line 1) starts gazing at a little well to their left. Subsequently, Jule (walking on the left side) turns to the left and also looks at the well (line 1) before it is verbally assessed in line 2. Finn’s late verbal response to the noticeable may be due to the fact that this delay enables him to finish his TCU before engaging with the object in the surroundings. This late positioning means, however, that it is now embedded in the co-participants’ bodily conduct in a way that makes the “perception imperative + exclamative” format unsuited.

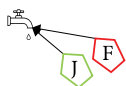
**Extract 6.** Brunnen ‘well’ (NLP, VP2728, 01:33:57)



#fig.8

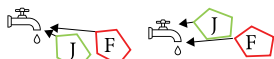
2 -> #fig.8 o:h w[ie C]00L.  
oh how cool

3 Jule: [OH ]]



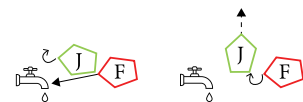
4 {(1.0)}

5 nIce;}



6 {(0.3)}

{(1.37)}



7 {(0.32)}

{(0.22)}

Right after Finn finishes his utterance in line 1, he assesses the little well, at which both participants are gazing with *o:h wie COOL* ‘oh how cool’ (line 2). The exclamative is preceded by the response cry *oh* (cf. Goffman 1978; Golato 2012; Anna and Pfeiffer 2021; Pfeiffer and Anna 2021) which contributes to Finn’s expression of an affective stance towards the assessed object. Finn uses an exclamative consisting only of *wie* in combination with an evaluative adjective. Confirming earlier observations by Pfeiffer (2016: 43), this “minimal form” is neither accompanied by a pointing gesture nor by a verbal element that explicitly refers to the assessed object, since it is deployed in a context in which a common visual focus is presupposed by the participants. In overlap with Finn’s exclamative, Jule also produces an *OH* (line 3) followed by a second assessment in line 5 (*nice*), sharing Finn’s surprise about the unexpectedly “cool” discovery.

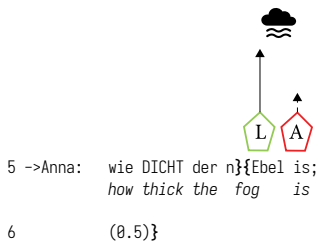
In contrast to the combined cases discussed in Section 5, the bodily positions of the walkers become crucial in these solitary uses. Finn walks on the right side and because of his orientation towards the object, his body is torqued (viz. his upper body is turned towards the left side, while his lower body stays in a forward position, Schegloff 1998). This bodily re-orientation means that Jule is now even more accessible in Finn’s peripheral field of vision. Also, she presumably perceives his change in bodily orientation and can align with Finn by orienting herself towards the object as well. Thus, it can be assumed that both participants are aware of the fact that they are both oriented to and looking at the same object (see Botsch et al., submitted). Even before any kind of verbal assessment is produced, the two participants can assume to be in a state of joint attention. This is the reason why Finn does not produce a perception imperative preceding the *wie*-exclamative, nor does he point to the assessable.

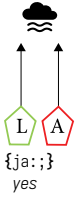
In our last Extract 7, the referent of the exclamative is equally presupposed to be part of the common ground; but the reason for this presupposition is not its having become the focus of joint visual attention just prior to the production of the exclamative, as in the previous example, but its general and unavoidable visibility. It is the fog which surrounds the two walkers. Just before the exclamative (lines 1–4), Anna temporarily directs her gaze to Lars’ face (line 1), who is looking straight ahead, where the fog is visible in the distance (see #fig.8). Therefore, Anna can assume that her co-walker took notice of the fog, and he can assume that Anna made this assumption.

Extract 7. Nebel 'fog' (NLP, VPo5o6, oo:19:33)



#fig.9





In the beginning of this example, Anna and Lars are in an “open state of talk” (Goffman 1981: 134–5), that is, they are not talking while walking together on a gravel path (lines 1–4), but are available for talk. Anna terminates the open state of talk by producing an exclamation (*wie DICHT der nEbel is*, ‘how thick the fog is’, line 5), expressing that she finds the thickness of the fog remarkable. In this example, the walkers do not stop since, firstly, they do not run the risk of passing the noticeable before it can be jointly apprehended and, secondly, the nature of the object does not lend itself to “close inspection”.

Like in Extract 6, the speaker does not use a perception imperative, indicating that the noticeable is taken to be part of the common ground. Nevertheless, the example differs from the previous ones, as reference to the noticeable cannot be established by pointing or gaze-following due to its lacking objecthood; Anna therefore uses a nominal phrase (*der nEbel*, ‘the fog’) to make the reference explicit. The exclamation is descriptive and does not express a clear negative or positive stance. Matching this indeterminacy, the co-walker only produces a minimal response (*ja:;* ‘yes’, line 7).

## 7. Conclusions

On the basis of our data, we have investigated walking together through the forest which involves a particular form of intersubjectivity that can be described as the social experience of nature. Sharing discoveries and observations in the surrounding nature with the co-walker, as well as jointly inspecting, exploring, and assessing noticed objects, are an important part of this kind of intersubjectivity. When interactively constructing the social, intersubjective experience of nature, walkers often employ a practice consisting of a “combined (verbal) format”, i.e., a visual perception imperative (*guck/schau (mal)* ‘look’) followed by a *wie* ‘how’-exclamative (e.g., *kuck mal wie SCHÖN der is*. ‘look PTCL how beautiful that one is’) and its embedding into certain forms of gaze behavior, bodily conduct, and pointing. In this chapter, we first showed that the interactional function of this combined format is to draw the co-walker’s attention to an object in the surroundings and to express an affective stance towards it, treating the noticed referent as noteworthy and remarkable.

Our analyses demonstrated that the combined format is particularly well suited for being used in the transformation of individual perceptions of nature into an intersubjective experience, for several reasons. Firstly, it is used to establish joint attention to an object or event that is not yet part of the common ground of the co-walkers (i.e., the speaker cannot assume that the recipient has perceived it already, and it has not been introduced in the prior part of the verbal interaction). Secondly, the combined format typically involves a shift from displaced to situated speech, or from a state of open talk into situated speech, which allows the noticer to immediately draw the co-walker's attention to the relevant aspect of the surroundings at any point in time. Thirdly, it allows the speaker to provide an account for why s/he has drawn the recipient's attention to the "noticeable", by assessing or describing it as noteworthy. Fourthly, contributing to the accomplishment of a sequentially first action, this verbal format provides an occasion for the co-walker to share with the noticer a joint stance toward "things in nature", which in turn is the basis of the intersubjective experience of nature.

In a second step, we compared the combined format with stand-alone uses of perception imperatives and *wie*-exclamatives. We found that perception imperatives without following exclamatives are used to draw the co-walker's attention to objects for which it is not necessary to provide an account as to why they are noticed: This applies to information boards or to entities that are already part of the common ground (e.g., noticings of reoccurring objects). In these cases, the use of exclamatives would not be appropriate, since the referents involved are irrelevant for the intersubjective negotiation of stances as part of the joint experience of nature. With regard to the *wie*-exclamatives that occur without perception imperatives, we observed that they are used as stand-alones in contexts in which the co-walker can be assumed to have already perceived the relevant object of reference. In these cases, speakers systematically do not use an imperative preceding the exclamative. Thus, each of the three verbal formats – the combined format "perception imperative + *wie*-exclamative", perception imperatives (without *wie*-exclamative), and *wie*-exclamatives (without perception imperative) – constitutes a distinct verbal practice used for a specific interactional purpose. The imperative draws the other's attention to a relevant object that is not part of the common ground; the exclamative expresses a stance towards it and provides the basis for the interactive negotiation of a shared experience.

Similar studies in comparable environments (for instance, on walks through a museum, on city walks or while shopping for clothes) will have to show whether the grammatical formats and interactional practices developed on the basis of nature walks can be found beyond this particular case.

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