ARTICLE

German *schon* and *noch* as scalar additives with a marginality twist

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Abstract

This article presents a description of German *schon* and *noch* as nontemporal scalar focus operators. Both items operate in a scalar model of sufficiency and signal that the focus value yields a more informative proposition than all alternatives under consideration; that is, they are special cases of scalar additives. Where the two expressions differ is in the complementary perspectives they evoke. *Schon* relates to higher alternatives. *Noch* relates to lower alternatives, but brings about an inverse (i.e., antonymically ordered) scalar model. The use of *schon* and *noch* as scalar sufficiency operators is traced back to an amalgamation of two other uses of the same items. The descriptive findings contribute to the advancement of our cross-linguistic understanding of scalar focus operators and raise fundamental questions pertaining to the typological and theoretical status of scale reversal phenomena.*

Keywords: German; focus; scalar additive; scale reversal; marginality

1. Introduction

1.1 Subject Matter and Goals

The particles *schon* 'already' and *noch* 'still' are "amongst the most widely used and most versatile expressions in German, [with] a variety of uses or meanings that interact ... with many grammatical subsystems" (König 1991:133). The present article deals with a specific use of these items, namely as nontemporal scalar operators with a narrow, in-situ focus on an argument or adjunct. The examples in (1) are illustrations.[1]

[1] Most if not all the observations made in this article about *schon* apply verbatim to its (stylistically more formal) near-synonym *bereits*.

(1)

a. **Schon** [ein-e   Tasse a-m   Tag]_FOC senk-t
   already one-NOM.SG.F cup(F) at-ART.DEF:DAT.SG.M day(M) lower-3SG
   dauerhaft   den   Blut-druck
   permanently ART.DEF:ACC.SG.M blood-pressure(M)

   'As much as one cup [of coffee] per day results in a permanently lower blood pressure.' (found online)[2]

b. **Noch** [der   armselig-st-e   Mensch]_FOC ist   fähig,
   still ART.DEF:NOM.SG.M dismal-SUP-NOM.SG.M human(M) COP.3SG capable
   die   Schwäche-n   des   bedeutend-st-en   . . .
   ART.DEF:ACC.PL weakness-PL ART.DEF:GEN.SG.M eminent-SUP-GEN.SG.M
   zu erkenn-en.
   to recognize-INF

   'Even the basest of humans is capable of detecting the weaknesses of those most eminent.' (Adorno, *Minima Moralia*)

Throughout this article, I refer to the function of *schon* and *noch* in examples like (1a) and (1b) as that of SCALAR SUFFICIENCY OPERATORS. Despite a plethora of publications on the two items, this particular use has not received a precise description, nor has it been placed in a typology of focus-sensitive operators. Against this backdrop, the main aim of this article is to answer the following two questions:

 (i) What is the meaning contribution of *schon* and *noch* in cases like (1)?
 (ii) What motivates this use and its semantic peculiarities?

To anticipate my analysis (section 6), I argue that *schon* and *noch* in the relevant use are propositional operators that contribute the presupposition that, among all alternatives under consideration, their focus denotation yields the most informative answer to a question involving degrees of sufficiency. They therefore constitute a special case of scalar additive operators (cf. Kay 1990, Gast & van der Auwera 2011, 2013). Where the two items differ is in the complementary perspectives they evoke. With *schon*, the high informativity of the overall proposition is aligned with a low focus value. Correspondingly, *schon* is restricted to environments in which less is more (scale reversal contexts, a.k.a. "downward entailing," "downward monotonic," and the like); in Gast & van der Auwera's (2011, 2013) typology it constitutes a BENEATH operator. Thus, (1a) answers a question such as "How much coffee is needed?" and sets the bar for achieving positive effects lower than what the addressee may assume. With *noch*, on the other hand, informativeness positively correlates with focus value, which makes *noch* a BEYOND operator. However, *noch* comes with an additional twist, in that it brings about an inverse model of sufficiency. Applying this to the initial example, (1b) responds to "Who has what it takes . . . ?" and gives us to understand that this set is more extensive than perhaps assumed, extending as far as to the most *un*remarkable person. This inherent scale reversal raises fundamental questions about the ontological status of such phenomena (see section 6.6).

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[2] www.aponet.de/artikel/kaffee-senkt-den-blutdruck-11322 (accessed December 6, 2022).

In answer to question (ii), I argue that *schon* and *noch* as scalar sufficiency operators go back to an amalgamation of two other uses of the same items. In the first use, they serve as scalar operators in conjunction with temporal frame adverbials or with expressions standing in for one, as in (2). From this use, cases like (1) inherit their association with focus and its syntactic correlates, the open scalar variable, as well as their propositional strength.

(2) **Schon** [Cäsar]$_{FOC}$ wusste,   dass   Anerkennung   und Respekt . . .
     already Caesar   know.PST.3SG COMP recognition   and respect
     wichtig-er   sind   als   Geld.
     important-CMPR   COP.3PL than money

     'Someone as early as Caesar/even Caesar knew that recognition and respect are more important . . . than money.' (found online)[3]

The notions of degrees of sufficiency (of both expressions), as well as the inherent scale reversal (only *noch*) go back to a use that is commonly referred to by the label "marginality" (König 1977, 1991, Michaelis 1993, Ippolito 2007, among others); see (3).

(3) Context: talking about skills in some sport.
     Benjamin kann   er   **noch** besieg-en,   aber   Stefan ist   **schon**
     B.   can.3SG 3SG.M still   beat-INF   but   S.   COP.3SG already
     besser als   er.
     better than 3SG

     'Benjamin he can still beat [i.e. Benjamin falls in the range of beatable opponents], but Stefan is already better than him.'

The structure of this article is as follows. In section 1.2 I review the existing literature on *schon* and *noch*. In section 1.3 I lay out theoretical preliminaries. Section 2 addresses the "basic" functions of *schon* and *noch*, namely as phasal expressions, and section 3 is a discussion of *schon* and *noch* as time-scalar focus particles. In section 4 I explore *schon* and *noch* as markers of marginality. This is followed by an interim summary in section 5. In section 6, I discuss my analysis in more detail. The article concludes in section 7.

1.2 Literature Review

Despite a plethora of publications on German focus-sensitive operators in general (König 1981, 1991, Jacobs 1983, König et al. 1990, Helbig 1994, Métrich & Faucher 2009, Sudhoff 2010, among others), and on *schon* and *noch* in particular (including Shetter 1966, Doherty 1973, König 1977, 1979, Abraham 1980, Gornink-Gerhardt 1981, Löbner 1989, Reiter 1989, Krifka 2000, Umbach 2009, 2012, Féry 2010, Beck 2016, 2020), there has been surprisingly little discussion of the use that is in the spotlight of this article.
    Amongst the handful of available discussions, König (1981, 1991:153–154, 1993) observes that *schon* and *noch* in the relevant cases show all the structural and semantic hallmarks of focus-sensitive operators. For *schon* in particular, König (1981:120) speaks

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[3] www.rollingpin.at/karriere-bewerbungs-tipps/was-koennen-wir-lernen-von-caesar (accessed July 14, 2022).

of an operator that "selects an alternative following the value given," which translates into a BENEATH operator in Gast & van der Auwera's (2011, 2013) typology. Similar wordings and observations are found in König et al. (1990:204), throughout König (1991), and in the *DWDS* and Duden dictionaries (BBAW n.d.: s.v. *schon*, Dudenredaktion n.d.: s.v. *schon*); a brief but concurring discussion of a single example is found in Zifonun et al.'s (1997:893) grammar. On a cross-linguistic note, Mosegaard Hansen (2008:183–185) and Mosegaard Hansen & Strudsholm (2008) describe structurally parallel uses of French *déjà* and Italian *già*. Like König's (1981) characterization of *schon*, they translate into BENEATH operators in the typology employed throughout this article and they can be read as involving the notion of sufficiency.

For *noch*, the available information is even more limited. Apart from a brief discussion by König (1991), to the best of my knowledge, the only explicit description is found in the *DWDS* dictionary (BBAW n.d.: s.v. *noch*). There, the relevant use is described as a synonym of the scalar additive operators *selbst* and *sogar* 'even', found in combination with "einem Satzglied mit negativ bewertetem Inhalt" [a constituent with a negatively evaluated meaning]; I address the question of negative evaluation in section 6.5.

In sum, thus far the relevant use of *schon* and *noch* has received little attention. The two items have, however, been identified as clear cases of focus-sensitive operators, with the existing descriptions pointing towards scalar additives of some sort.

1.3 Theoretical Preliminaries

In the present article, I take a functional approach to language and assume that multifaceted items like *schon* and *noch* are best understood as forming a cluster of functions or uses, rather than having one abstract *Gesamtbedeutung*. These uses constitute a network of conceptual relationships, while, at the same time, they can be differentiated from one another on semanto-pragmatic and/or formal grounds (see Haspelmath 1997:59, Croft 2012:127, Janda 2015:623, among others). Importantly, as Mosegaard Hansen (2008:227), drawing on Geeraerts (1997), points out, "if the internal semantic structure of a lexical category consists in clustered and overlapping readings, then … new meanings are likely to originate in several older meanings simultaneously."

As the aims of this article are primarily descriptive, I adopt no specific semantic framework or formalisms. Instead, I draw from a set of well-established principles and assumptions. To begin with, I take for granted that the individual contributions that interlocutors make in coherent discourse aim to provide an answer to some (possibly implicit) QUESTION UNDER DISCUSSION (short: QuD) (Klein & von Stutterheim 1987, 1992, Roberts 1996, 2004, and references therein). For instance, (4a) below answers a question like "How content am I with her support?" and (5) involves a QuD "How powerful is this man?"

As a partial means of structuring discourse, FOCUS relates the denotation of a specific constituent to alternative meanings available in the context (König 1981, 1991, 1993, Rooth 1992a, 1992b, Krifka 2007, among many others). Ordered sets of such denotations are referred to as SCALES (see Fauconnier 1975, Jacobs 1983). The ORDERING RELATIONS underlying scales may be strictly logical or may be mediated by "general and contingent pragmatic knowledge about how the world normally seems to work" (Israel 2011:53). Crucially, an ordering based on (pragmatically mediated) unilateral entailments means that any given scale has a single, unequivocal direction: A low

rank corresponds to fewer entailments and vice versa. However, "for every canonical scale there exists a corresponding inverted scale" (Israel 2001:17); for example, degrees of plausibility versus degrees of *im*plausibility. This point is essential for my analysis of *schon* and *noch*.

SCALAR FOCUS OPERATORS provide a ranking of propositions based on pragmatic scalar models (propositional schemas), which are ordered by the degree of inference they license in answer to a question under discussion (Kay 1990, Gast & van der Auwera 2011, 2013, Israel 2011, Gast 2012, among others). An example is given in (4a), featuring propositional *at least*, which evokes a bouletic scalar model. As shown in (4b), each of the accessible propositions corresponds to a different degree of positive evaluation, with *She tried to help me* amounting to some, but not full contentment (cf. Kay 1992, Gast 2012).

(4)

a. **At least** she [tried]$_{FOC}$ to help me.

b. QuD: How content am I with her support?

Propositional content		Contentment
She succeeded in helping me.	→	Maximal
She [tried]$_{FOC}$ to help me.	→	Medium
She thought of helping me.	→	Minimal

A type of focus quantifier that plays a central role throughout this article is SCALAR ADDITIVES. These trigger a presupposition that their propositional argument ranks higher (is more informative) than all other propositions under consideration (Kay 1990, Gast & van der Auwera 2011, 2013). This is illustrated in (5) for German *sogar*.

(5)

a. Was   ist   das   für   ein   Mensch, dass **sogar**
   what COP.3SG 3SG.N for ART.INDEF:NOM.SG.M human(M) COMP even
   [die   Wind-e und das   Wasser]$_{FOC}$
   ART.DEF:NOM.PL   wind-PL and ART.DEF:NOM.SG.N water(N)
   sein-em   Befehl   gehorch-en?
   POSS.3SG.M-DAT.SG.M   command(M)   obey-3PL

   'Who is this? He commands even the winds and the water, and they obey him.'
   (Luke 8: 24–25, *Einheitsübersetzung*)

b. QuD: How powerful is that man?

Propositional content		Deg. of power
The [winds and the water obey]$_{FOC}$ him.	→	High
His children obey him.	→	Medium
His dogs obey him.	→	Low

A higher rank in the propositional schema than all alternatives under consideration (at a given point in discourse) does not necessarily equal the highest rank in the entire model. Thus, examples like (6) may be stylistically marked, but they are by no means contradictory. In fact, sensitivity to scalar endpoints has been shown

to be an independent parameter of variation across scalar additives; I return to this point in section 6.2.

(6)   Context: Mary did not only win her first-round match.

Sie   hat   es   **sogar** [in-s   Halb-finale]_FOC
3SG.F   have.3SG 3SG.ACC.N even   in-ART.DEF:ACC.SG.N semi-final(N)
ge-schaff-t,   ja   **sogar** [in-s   Finale]_FOC!
PTCP-achieve-PTCP yes even   in-ART.DEF:ACC.SG.N final(N)

'She even made it to the semi-finals, and even to the finals!' (based on Kay 1990:89)

As implied by the label scalar *additives*, these operators convey a notion of inclusivity: not only the (more informative) text proposition, but also the (less informative) context propositions are taken to be true. This meaning component is best understood as a default assumption that is derived from the scalar component and which arises under normal conversational conditions (see Fauconnier 1975, Schwarz 2005, Gast & van der Auwera 2011). Importantly, because the text proposition outranks all context propositions, the default assumption relates to the entire set. This constitutes a crucial difference from scalar restrictive operators, such as *at least* in (4). The latter can be understood as denoting negated universal quantification (Gast 2012). That is to say, one or more, but *not all*, of the ranked propositions are taken to be true.

Lastly, scalar additives are usually said to come in two primary flavors (Gast & van der Auwera 2011, 2013). With BEYOND operators such as *sogar* in (5) and (6), the ranking of the focus denotation on some salient scale correlates positively with the ranking of the entire proposition ("more is more"). With a BENEATH operator such as German *auch nur* 'so much as', on the other hand, this correlation is negative ("less is more"). Correspondingly, the two types of scalar additives are felicitous in different contexts. I discuss this distinction in more detail in section 6.3.

2.   *Schon* and *noch* as Phasal Polarity Expressions

The most basic function of *schon* and *noch* lies in relating the polarity of a situation at a given time to that of the same situation during an adjacent interval; in typological studies, this function has come to be known by the label of "phasal polarity" (short: PhP; van Baar 1997). Phasal polarity uses are only indirectly related to the functions in the spotlight in this article and the following discussion is therefore intended as a mere baseline for comparison.

2.1 Phasal Polarity *schon*

Most authors agree that the main contribution of PhP *schon* 'already' and similar items in other languages lies in a presupposition that at an adjacent earlier time the situation described in the sentence did not obtain, either factually, or at least possibly (Doherty 1973, König 1977, 1991:ch. 7, Martin 1980, Löbner 1989, van Baar 1997:ch. 2, Krifka 2000, Mosegaard Hansen 2008:113–115, among many others). This is illustrated in (7), where topic time is "the time span to which the speaker's claim on this occasion is confined" (Klein 1994:4) and ∝ symbolizes left-adjacency.

(7)

a. Steffi schläft **schon**.
   S.   sleep.3SG already

   'Steffi is already asleep.'

b. Assertion: 'Steffi is asleep'
   Presupposition: at an interval $t \propto$ topic time, Steffi was possibly not asleep.

In discursive terms, *schon* thus triggers an alternative scenario in which a state-of-affairs has *not yet* come into existence and which "figures in the discourse, and/or in the mind of the Speaker, of the Addressee, or both, as a serious alternative of the factual situation" (van Baar 1997:41). This does not entail any evaluation about the relative timing of the two phases, as evidenced by the felicity of both (8a) and (8b).[4]

(8)

a. Wie erwart-et schläft Steffi **schon**.
   as expect-PTCP sleep.3SG S.   already

   'As expected, Steffi is already asleep.'

b. Unerwarteterweise schläft Steffi **schon**.
   unexpectedly   sleep.3SG S.   already

   'Unexpectedly, Steffi is already asleep.'

When it comes to its syntactic placement, PhP *schon* typically occurs in the midfield of a V2 clause (i.e., following the finite verb), as in (7) and (8). It can also occupy the forefield position, with minor changes in meaning (e.g., Klein 2018), and it can be used in elliptical questions.[5] Where a monotone change along some scale is aligned with time (see Löbner 1989, van der Auwera 1993, Krifka 2000), *schon* can constitute an adjunct to the constituent containing the focus. This is evidenced, among other things, by their cooccurrence in the forefield position of a V2 clause, as illustrated in (9). As in this example, the usual direction of change is that of an increase.

(9) [**Schon** vier-hundert Bücher]$_{NP}$ hat   Benjamin.
    already four-hundred book.PL   have.3SG B.

    'Benjamin already has four hundred books.'

2.2 Phasal Polarity noch

When it comes to PhP *noch* 'still' and its cross-linguistic congeners, consensus has it that their semantic contribution lies in the presupposition of a prior, abutting runtime of the same situation (Doherty 1973, König 1977, Martin 1980, Löbner 1989, Mosegaard Hansen 2008:113–115, Beck 2016, 2020, among others); example (10) is an illustration.

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[4] For cross-linguistic discussions of phasal expressions in relation to speaker/hearer expectations, see van Baar (1997:ch. 2), Kramer (2017, 2021), and van der Auwera (2021).

[5] This is not possible in isolated assertives, probably due to blocking by a homonymous *schon* 'well yes, but …' (see Gornink-Gerhardt 1981, Kwon 2005).

(10)

a. Steffi   schläft   **noch**.
    S.   sleep.3SG still

    'Steffi is still asleep.'

b. Assertion: Steffi is asleep.
    Presupposition: at an interval $t \propto$ topic time, Steffi was asleep.

While this existential presupposition is uncontroversial, what is more contested is the status of a possible discontinuation. Thus, it has been repeatedly observed that items like *noch* do not combine with inalterable states (Doherty 1973, Nedjalkov & Jaxontov 1988, Löbner 1989, Michaelis 1993, Mosegaard Hansen 2008:118, among others); this is illustrated in (11a). Cessation is, however, not entailed, as shown in (11b).

(11)

a. #Trudi ist   **noch** tot.
     T.   COP.3SG still   dead

    (intended: 'Trudi is still dead.')

b. Das   ist   **noch** so   und wird   auch immer so   bleib-en.
    3SG.NOM.N COP.3SG still   thus and become.3SG also always thus remain-INF

    'That's still the case, and it will remain so forever.'

Many authors see the need for a possible discontinuation as a mere artefact, on the grounds that it would be trivial to describe a situation as persisting if it cannot end in the first place (Muller 1975, König 1977, Abraham 1980, Klein 2018, among others). Others see the invocation of a possible negative phase as a core function of 'still' items (e.g., Löbner 1989, Vandeweghe 1992, van der Auwera 1993, 1998, van Baar 1997:ch. 2). Whichever stance one takes, it is uncontroversial that the felicitous employment of these expressions requires a plausible discontinuation scenario. Part of the discourse contribution of *noch* thus lies in addressing the question as to whether a given situation has ended. In line with what was seen above for *schon*, this entails no evaluation of the relative timing between the two phases; see (12).

(12)

a. Wie erwart-et   schläft   Steffi **noch**.
    as expect-PTCP sleep.3SG S.   still

    'As expected, Steffi is still asleep.'

b. Unerwarteterweise   schläft   Steffi **noch**.
    unexpectedly   sleep.3SG S.   still

    'Unexpectedly, Steffi is still asleep.'

In terms of its syntax, PhP *noch* also mirrors *schon* in that it typically occupies the mid-field of the sentence, though it may also occur in the forefield and in elliptical utterances. Similarly, when phasal polarity meets narrow focus and a monotone change along a scale, *noch* can be a syntactic sister to the focused constituent; see (13).

Note that, in this case, the two scales are negatively aligned: topic time is related to a presupposed earlier interval, whereas the alternatives to the focus are higher values (i.e., a decrease over time).

(13) [**Noch** vier-hundert Bücher]_{NP} hat   Benjamin.
        still   four-hundred book.PL   have.3SG B.

      'Benjamin still has four hundred books (left).'

3. *Schon* and *noch* as Time-Scalar Focus Operators

As well as serving as PhP expressions, *schon* and *noch* are found as scalar operators that take a temporal frame adverbial as their associated constituent; for previous discussions, see Shetter (1966), König (1977, 1979, 1991:ch. 7), Beck (2016), Klein (2018), and Beck (2020), among others. The examples (14) are illustrations. With *schon* in (14a), the denotation 'last week' is related to later alternatives such as 'this week', whereas with *noch* in (14b) it is contrasted with earlier alternatives such as 'a month ago'.[6]

(14)
a. Da   ich momentan in Leipzig auf der   DOK   bin,   hab-en
    as   1SG currently in L.   on   ART.DEF:DAT.SG.F DOK   COP.1SG have-1PL
    wir dies-e   Sendung **schon** [letzt-e   Woche]_{FOC} aufgezeichnet.
    1PL PROX-ACC.SG.F show(F) already last-NOM.SG.F week(F)   record.PTCP

    'As I'm currently at the DOK [festival] in Leipzig, we recorded this show as early as last week.' (found online)[7]

b. Context: about perpetual conflicts in the Aegean Islands.
    Noch [letzt-e   Woche]_{FOC}   kam   es ... zu ... heftig-en
    still   last-NOM.SG.F week(F)   come.PST.3SG 3SG.N to   severe-DAT.PL
    Auseinandersetzung-en   zwischen der   Polizei   und
    conflict-PL   between ART.DEF:DAT.SG.F   police(F)   and
    den   Insel-bewohner-n.
    ART.DEF:DAT.PL   island-inhabitant-DAT.PL

    'As late as last week, altercations between the police and the islanders occurred.' (found online)[8]

At first sight, one could be led to assume that what is at stake in (14) are degrees of removal from the temporal origo ('as far back as last week' versus 'as recently as last

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[6] *Noch* has another structurally similar use in examples like (i), where its meaning can be roughly paraphrased as "it is still T[opic time] when e[vent] occurs" (Löbner 1989:202). As discussed by Beck (2016), scalar readings are a contextual inference here, in the same way they are with phasal *noch*.
(i) *Er   wurde   **noch** a-m   Unfall-ort   operier-t.*
     3SG.M become.PST.3SG still   at-ART.DEF:DAT.SG.M accident-place(M) operate-PTCP
     'He was operated on right at the scene of the accident.'

[7] https://secondunit-podcast.de/second-unit-83-saw/ (accessed November 28, 2022).

[8] www.nzz.ch/international/die-harte-linie-an-der-grenze-ist-in-griechenland-populaer-ld.1544107 (accessed November 28, 2022).

week'). This is, however, an artefact of the past tense environment (König 1979), as can be seen in future contexts, such as in (15). Here, the relationship between proximity/earliness and remoteness/lateness is inversed; what remains stable is that *schon* involves later relata, whereas *noch* contrasts the focus with earlier times.

(15)

a. Deutschland-s Gletscher verschwind-en: **Schon** [in zehn Jahr-en]_FOC
    Germany-GEN glacier.PL disappear-3PL already in ten year-DAT.PL
    könnte   auch das   letzt-e   "ewig-e"   Eis
    can.COND.3SG also ART.DEF:NOM.SG.N last-NOM.SG.N eternal-NOM.SG.N ice(N)
    geschmolzen sein
    melt.PTCP   COP.INF

    'Germany's glaciers are disappearing: in as little as ten years the last "eternal" ice might have melted.' (found online)[9]

b. Ich   seh-e   die   Gefahr, dass die   europäisch-en
    1SG   see-1SG ART.DEF:ACC.SG.F   risk(F) COMP ART.DEF:NOM.PL European-PL
    Parlamentarier   **noch** [in zehn Jahr-en]_FOC auf der   Stelle
    parliamentarian.PL still in   ten year-DAT.PL on ART.DEF:DAT.SG.F   spot(F)
    tret-en.
    step-3PL

    'I fear that as late as in ten years the European parliamentarians will (still) be treading water.' (found online)[10]

A diachronic bridge between the two functions is found in examples like (16), with a time-scalar interpretation involving ex-situ focus. Thus, in both readings, (16a) is usually understood as involving an earlier age than what the addressee may assume (recall that *schon* evokes an alternative scenario in which the situation does *not yet* manifest itself at topic time). In the same vein, under both interpretations of (16b), Emil's pro-European stance is normally taken to persist from an earlier time, but not necessarily beyond the year 2003 (cf. Shetter 1966, Mosegaard Hansen 2008:160–162, Mosegaard Hansen & Strudsholm 2008).

(16)

a. Mit sieben konnte   Laura **schon** fließend Latein les-en.
    with seven can.PST.3SG L.   already fluently Latin read-INF

    'At seven years of age, Laura could already read Latin without any problems.'

b. 2003 hätte   Emil **noch** für Europa ge-stimm-t.
    2003 have.COND.3SG   E.   still   for Europe PTCP-vote-PTCP

    'In 2003, Emil would still have voted for Europe.' (based on Mosegaard Hansen 2008:160–162)

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[9] www.pnp.de/archiv/1/letzte-gletscher-deutschlands-wohl-schon-in-zehn-jahren-geschmolzen-7188542 (accessed November 28, 2022).

[10] www.finanzverwaltung.nrw.de/wirksame-schritte-gegen-steuerdumping-der-staaten-gefordert (accessed November 28, 2022).

This does not entail that the time under discussion constitutes an endpoint. Continuations like the ones in (17) are neither contradictory nor perceived as corrections. They merely introduce alternative times that had not been considered before.

(17)

a. A: Also, **schon** [mit sieben]$_{FOC}$ konnte   Laura fließend Latein les-en?
       so   already with seven   can.PST.3SG L.   fluently Latin read-INF

    'So, at seven years of age, Laura could already read Latin without any problems?'

    B: Ja.
       'Yes'

    A: Und mit fünf?
       'And at five years old?'

    B: Da auch (schon). Sie war ein wahres Wunderkind.
       'The same. She was a true prodigy.'

b. Also, **noch** [2003]$_{FOC}$ hätte   Emil für Europa ge-stimm-t.
    so   still 2003   have.COND.3SG E.   for Europa PTCP-vote-PTCP
    'So, as late as 2003 Emil would have voted for Europe.'

    Auch 2010 hatte sich an seiner Meinung nichts merklich geändert …
    'Even in 2010 his opinion hadn't really changed …'

For the present purposes, two components are crucial. Firstly, in the time-scalar use, the inherent ordering relationship of the temporal scale is preserved, as we are consistently dealing with positive calendric values. Secondly, the step from phasal polarity to a time-scalar use involves a reversal of dependencies: in PhP use, a situation's polarity is evaluated against a given time, while in time-scalar use, time is the dependent variable (Krifka 2000). This is not the only difference between the two uses. Thus, only the time-scalar one shows the structural hallmarks of focus-sensitive operators (König 1991:153), in that it is a syntactic sister to a constituent that is identifiable as the focus both in semantic and prosodic terms. What is more, the converging interpretations found in cases like (16) are not universal. Unlike PhP *noch*, its time-scalar cousin does not entail an earlier runtime of the situation depicted in the clause (Beck 2020). For example, in (18) the speakers did not live in Danbury before the year 1997, yet no contradiction arises. What is more, unlike phasal *noch*, its time-scalar counterpart is perfectly compatible with a perfective viewpoint, as can be observed in (14b) above.

(18)   Context: we had a condo in Danbury between March and November 1997.

    A: Wie lange haben wir eigentlich in Mt. Kisco gewohnt?
        'For how long did we live in Mt. Kisco?'

    B: So lang kann das nicht gewesen sein.
        'It can't have been that long.'

        Noch [1997]$_{FOC}$ hab-en   wir ja in Danbury ge-wohn-t.
        still 1997   have-3PL 1PL DM in Danbury PTCP-reside-PTCP
        'As late as 1997 we lived/were living in Danbury.' (Beck 2020:30, fn. 13)

Lastly, time-scalar *schon* and *noch* clearly function as propositional operators, in that they signal that their host proposition yields a stronger (more informative)

answer to some QuD than the alternatives under consideration. For instance, in (18) the focus value of 1997 yields a stronger argument for how short the speakers' stay at Mt. Kisco was than earlier times would. All of this brings *schon* and *noch* very close to scalar additives, the main difference lying in their restriction to temporal scales. This conceptual gap is narrowed even further in cases like (19), where the associate constituent is a thematic argument and temporal reference is mediated by metonymy and encyclopedic knowledge.[11]

(19)

a. **Schon** [Cäsar]~~FOC~~   wusste,   dass Anerkennung und Respekt …
   already Caesar   know.PST.3SG COMP recognition   and respect
   wichtig-er   sind   als   Geld.
   important-CMPR   COP.3PL   than money

   'Someone as early as Caesar knew recognition and respect are more important than money.' (found online)[12]

b. **Noch** [Lessing und Adelung]~~FOC~~ schreib-en hamtückisch.
   still   L.   and A.   write-3PL   hamtückisch

   '{Authors as late as Lessing und Adelung/Even Lessing and Adelung} use the spelling *hamtückisch*.' (Kluge, *Etymologisches Wörterbuch*, cited in Shetter 1966:52)

4. *Schon* and *noch* in "Marginality" Function

As I argue in this article, several of the semanto-pragmatic characteristics of *schon* and *noch* as scalar sufficiency operators go back to the same items in a use that is commonly referred to by the label of "marginality" (König 1977, 1991, Michaelis 1993, Ippolito 2007, among others). In this function, *schon* and *noch* combine with scalar predicates, including expressions for graded categories. They signal that a given entity falls within the bounds of a scale or of a portion thereof, even if it does not constitute the most representative instance. For example, in (20a), Benjamin's skills are portrayed as barely within the reach of the subject, whereas Stefan lies across the threshold that separates beatable opponents from superior ones. In (20b), it is stated that the city of Aachen, despite its peripheral location, forms part of German territory, while Liège lies on the other side of the German–Belgian border.

(20)

a. Context: talking about skills in some sport.

   Benjamin kann   er   **noch** besieg-en, aber Stefan ist   **schon**
   B.   can.3SG 3SG.M still beat-INF   but   S.   COP.3SG already
   besser als   er.
   better than 3SG.M

   'Benjamin he can still beat [i.e. Benjamin falls within the range of beatable opponents], but Stefan is already better than him.'

---

[11] In the case of *noch*, a "true" scalar additive use is found in comparisons of inequality (see Klein 2018, König 1977, 1991, Umbach 2009, among others). However, there is no parallel use for *noch*. What is more, unlike the scalar use in the spotlight of this article, comparative *noch* always receives nuclear stress.

[12] www.rollingpin.at/karriere-bewerbungs-tipps/was-koennen-wir-lernen-von-caesar (accessed July 14, 2022).

b. Aachen lieg-t   **noch** in Deutschland, Lüttich ist   **schon** Belgien.
    Aachen lie-3sg still   in Germany,   L.   cop.3sg already Belgium

'Aachen is still in Germany, Liège is already in Belgium.' (based on König 1977)

4.1 Marginality and Its Relation to Phasal Polarity

Marginality uses are clearly derived from phasal polarity via metonymy (Löbner 1989, Krifka 2000, Mosegaard Hansen 2008, among others). A transfer from temporal intervals to scales such as relative skill levels (20a) or geographic locations (20b) is a characteristic sign of the "semanto-pragmatic context extension" (Himmelmann 2004) that accompanies grammaticalization processes.[13] And indeed, where diachronic analyses are available, marginality uses consistently show up centuries after phasal ones (Yeh 1998, Mosegaard Hansen 2008, Mosegaard Hansen & Strudsholm 2008).

As a direct carry-over from phasal polarity, marginality uses of *schon* and *noch* differ in their perspective. Thus, "still [*noch*] P establishes a perspective where the P scale has been under discussion; already [*schon*] P establishes a perspective where the ¬P to P transition is salient" (Ippolito 2007:25). For instance, (20b) is felicitous in a context where locations within Germany have been the prior subject of discussion. Despite these obvious parallels, there are noteworthy differences in meaning that set marginality uses apart from their time-related precursors. The first one is subtle. Marginality

> can be said to conventionalize ... the presupposition of expected transition: the speaker's assertion that an entity bears some scalar property is informative only in so far as the entity's location ... is subject to debate. The equivocal nature of the entity's membership ... arises from it being situated at or near a transition point (Michaelis 1993:228)

Correspondingly, marginality uses are not available with clear-cut cases such as central members of a category (Muller 1991, Rombouts 1979, Mosegaard Hansen 2008, Deloor 2012, among others). Thus, examples like (21) are deviant, presumably because they address a question that would not arise in the first place. Removing *schon* and *noch*, on the other hand, yields a perfectly acceptable statement (assuming that the addressee is unfamiliar with central European geography).

(21) #Frankfurt ist   **noch** Deutschland, Brüssel ist   **schon** Belgien.
      F.   cop.3sg still   Germany   B.   cop.3sg already B.

(intended: 'Frankfurt is still Germany. Brussels is already in Belgium.')

This does not mean that the entity under discussion must constitute a genuine borderline case. It is merely required to lie in the zone of penumbra where inclusion in the relevant scale or a portion thereof can be called into question (Rombouts 1979, Yeh

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[13] Where *grammaticalization* can be taken to include *pragmaticalization*; see Diewald (2011) for discussion.

1998, Mosegaard Hansen 2008:ch. 2, Beck 2020). This is illustrated in (22), where the continuations feature entities that are more marginal than the ones in the preceding clauses, without leading to any contradiction or oddness.

(22)

a.   Context: seen from Belgium (Bad Münstereifel lies halfway between Koblenz and the Belgian–German border).

Lüttich   lieg-t   noch in Belgien.   Koblenz ist   **schon**   Deutschland, und
L.   lie-3SG   still in Belgium K.   COP.3SG   already Germany   and
Bad Münstereifel auch **schon**.
B. M.   also   already

'Liège is still in Belgium. Koblenz is Germany already, and so is Bad Münstereifel.'

b.   Context: seen from Germany.

Koblenz   lieg-t   **noch** in Deutschland, und Bad Münstereifel auch **noch**.
K.   lie-3SG   still in Germany   and B. M.   also   still
Lüttich hingegen   ist   schon   Belgien.
L.   however   COP.3SG   already Belgium

'Koblenz is still in Germany, and so is Bad Münstereifel. Liège, on the other hand, is Belgium already.'

The entity under discussion may, however, constitute an endpoint, such that any stronger value would no longer be evaluable in terms of the relevant scale. This is illustrated in (23) and (24).[14] As observed by König (1977) and Grosz (2012), it is quite common for *schon* to appear in contexts of minimal sufficiency like (23). In (24), the maximum point of the scale vests *noch* with an exhaustive "I'm fine no matter what" reading.

(23)   Context: about a sensitive cat.

Sie   hat   in vier Woch-en   Behandlung   so viel   mitgemacht
3SG.F   have.3SG   in four   week-PL   treatment   so much go_through.PTCP
in der   Tier-klinik,   dass   sie   bei-m
in ART.DEF:DAT.SG.F   animal-clinic(F)   COMP   3SG.F   at-ART.DEF:DAT.SG.N
gering-st-en   Geräusch   **schon**   zusammenzuck-t.
minor-SUP-DAT.SG.N   noise(N)   already   startle-3SG

'She went through so much during her four weeks of treatment in the animal clinic that the faintest noise already frightens her.' (found online)[15]

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[14] This does not mean that with *schon* an existential presupposition of a false alternative is needed (*pace* Grosz 2012:330). Consider the 'levels of noise' in (23): arguably, a zero value in the form of silence does not form part of this scale, and is therefore not even subject to debate. In set-theoretic terms then, 'levels of noise' would be a *left-open interval* (an interval whose lower limit is not included). What is more, the cat may also be startled by sudden but silent movement; nothing is said about her behavior in these cases.

[15] www.katzenforum.at/forum/threads/lungenentzuendung.34810/page-3 (accessed August 24, 2022).

(24) Context: discussing whether to bring a flashlight to a multi-day music festival.

Ich hab-s   auch letzte-s   Jahr   i-m
1SG have-3SG.ACC.N also last-NOM.SG.N year(N) in-ART.DEF:DAT.SG.M
Voll-suff   bei völlig-er   Dunkelheit **noch** ge-schaff-t,   nicht
full-buzz(M) at   complete-DAT.SG.F darkness(F) still PTCP-succeed-PTCP NEG
irgendwo   drüber zu stolper-n.
somewhere   over   to stumble-INF

'Last year, being completely wasted and in utter darkness, I still managed not to trip over anything.' (found online)[16]

The second crucial difference only pertains to *noch*. To understand it, it is worth taking another look at (20b), repeated below.

(20b) Aachen lieg-t **noch** in Deutschland, Lüttich ist   schon   Belgien.
       Aachen lie-3SG still   in Germany,   L.   COP.3SG already Belgium

'Aachen is still in Germany, Liège already in Belgium.'

Recall that PhP *noch* answers the question of whether a pre-existing situation has ceased at a given time. In the same manner, the first clause in (20b) addresses the question as to whether, at the point of reaching Aachen, the German territory has ended. The key difference from phasal polarity lies in the ordering of the scale. Thus, whereas a situation ends at a point in time that equals the highest (positive) calendric value of its runtime, scales such as the geographic regions in (20b) end at their most *decentral* (furthest removed, most unrepresentative, etc.) elements. Correspondingly, Umbach (2009:6) posits an ordering of "inverse prototypicality"; a similar observation is made by Mosegaard Hansen (2008:175) for French *encore*. *Schon* in the second clause, on the other hand, addresses the question of whether, at Liège, the Belgian territory has begun; this is the case with its *least central* members (i.e., entities ranking low on a positively defined scale of centrality). A graphic comparison is given in figure 1.

In more general terms then, both PhP *noch* and its marginality cousin involve a lower relatum, but the marginality use involves a scale the relative ordering of which is defined through the inversion of another scale. In this, marginality *noch* parallels what was seen in section 2.2 for those cases in which PhP *noch* is used in conjunction with a second scale, yielding an ongoing reduction. In a metonymical sense, the two cases are closely related: Examples like (20b) can be understood as inviting the addressee to browse their mental maps in a westerly direction, a process that takes up a perceived amount of time (Mosegaard Hansen 2008:161) and that is oriented towards a point where they "run out" of degrees of longitude that would yield an applicable argument for the predicate 'be Germany'. While in (20b) this metonymic relation is still perceivable, the same mechanism applies to more abstract scales, like the relative skill levels in (20a). The inherent reversal brought about by marginality *noch* plays a crucial role in my analysis of its scalar sufficiency use.

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[16] https://forum.wacken.com/threads/dong-open-air-2006-dong-of-the-dead.124687/page-123 (accessed August 23, 2022)
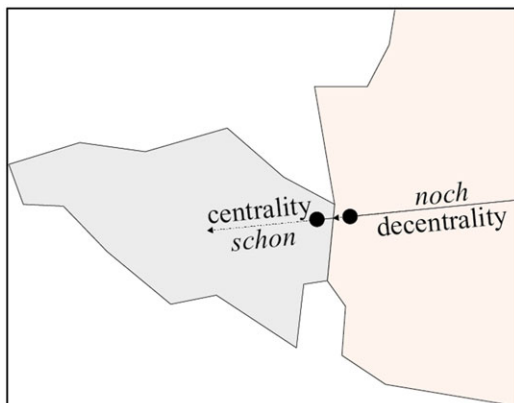
Figure 1. Graphic illustration of (20b).

Lastly, the meaning differences between phasal polarity and marginality have syntactic correlates. Thus, marginality *schon* and *noch* are restricted to the default mid-field position in the clause, whereas PhP *schon* and *noch* can occupy the forefield. In the same vein, only in PhP function can the two items be used in isolated, elliptical utterances (König 1977, 1991:151).

4.2 Marginality Uses vis-à-vis Scalar Sufficiency Marking

Up to this point, my discussion of marginality uses has focused on their origins and their differences from phasal polarity. It is, however, equally important to point out some crucial differences from focus quantification in general, and from *schon* and *noch* as scalar sufficiency operators specifically. To begin with, marginality *schon* and *noch* are not conventionally associated with focus (König 1991:151–152, Grosz 2012:276). Unlike typical focus-sensitive operators, they cannot be moved into the forefield position together with another constituent in examples like (20b), repeated once more below. As (20b') shows, such a shift would result in a markedly different meaning.

(20b)   Aachen liegt **noch** in Deutschland, Lüttich ist **schon** Belgien.
        'Aachen is still in Germany, Liège is in Belgium already.'
(20b')
a.   [**Noch** [Aachen]_{FOC}]_{NP} liegt   in Deutschland.
        still   Aachen   lie-3SG   in Deutschland

        'Even Aachen is in Germany.' Not: 'Aachen is still in Germany.'

b.   [**Schon** [Lüttich]_{FOC}]_{NP} ist   in Belgien.
        still   Liège   COP.3SG   in Belgium

        'Even Liège is in Belgium.' Not: 'Liège is still in Belgium.'

More importantly, one would not "want to call the stressed element in such sentences their focus" (König 1991:151). Thus, any prosodic prominence on the subject NPs in (20b) is due to their function as contrastive topics (a focus within the sentence topic; see Krifka 2007). In fact, the relevant constituent need not receive any

prominence at all: B's answer in (25) is perfectly fine without stress on the anaphoric pronoun *das*.

(25)   Context: driving in a westerly direction. Speaker A is not familiar with the local geography.

   A: Sag'   mal,   Aachen ist   **schon** Belgien, oder?
        Say.IMP   DM   A.   COP.3SG already   B.   or

        'Say, Aachen is in Belgium already, isn't it?'

   B.   Nein, das   ist   **noch** [Deutschland]_{FOC}.
        no   3SG.N COP.3SG still   Germany

        'No, it's still Germany.'

Closely related to the preceding point, marginality and scalar sufficiency uses answer different questions. As pointed out above, in marginality uses of *schon* and *noch*, the relevant scale only figures indirectly, in that it defines the boundaries of applicable arguments. Thus, the two statements in (20b) are about the two cities, and the gap in knowledge that they address pertains to the binary opposition between two territories, in just the same way that their PhP kindred address the polarity of a situation. The scalar sufficiency use, on the other hand, provides an answer to a scalar question (the degree to which a given proposition is true).

5. Interim Summary

Before embarking on the main endeavor of this article, it is worthwhile to briefly take stock of what has been seen in the preceding sections.

In section 3, I discussed *schon* and *noch* as scalar operators modifying a temporal frame expression. In this use, they display all the hallmarks of focus-sensitive operators. Crucially, for the present purposes, they bring about an open scalar variable and signal great propositional strength (a highly informative answer). In all this, they are markedly close to scalar additive operators, a gap that is narrowed down even further in those cases where another expression, such as a thematic argument, stands in for a time-frame adverbial.

In section 4, I discussed *schon* and *noch* as markers of marginality. Unlike the time-scalar use of the two expressions, marginality is not conventionally associated with focus. Instead, it is metonymically derived from the phasal notions 'already' and 'still' and signals that an entity has a sufficient, albeit remote, degree of a relevant property to yield a true proposition. An important characteristic of marginality *noch* lies in the invocation of an antonymic scale (such as degrees of *de*centrality, *a*typicality, etc.). What time-scalar and marginality uses have in common is that *schon* consistently involves a higher relatum, whereas *noch* goes together with a lower relatum.

6. The Analysis: Scalar Sufficiency Operators

As I laid out initially, the main aim of the present article is to give a description of the meaning and systemic embedding of *schon* and *noch* as scalar focus operators with a nontemporal argument or adjunct as their associated constituent. The examples in (1), repeated below, are illustrations.

(1)

a. **Schon** [ein-e   Tasse a-m   Tag]$_{\text{FOC}}$ **senk-t**
   already   one-NOM.SG.F cup(F) at-ART.DEF:DAT.SG.M day(M) lower-3SG
   dauerhaft   den   Blut-druck
   permanently ART.DEF:ACC.SG.M   blood-pressure(M)

   'So much as one cup [of coffee] per day results in a permanently lower blood
   pressure.' (found online)

b. **Noch** [der   armselig-st-e   Mensch]$_{\text{FOC}}$ ist   fähig,
   still   ART.DEF:NOM.SG.M   dismal-SUP-NOM.SG.M human(M) COP.3SG capable
   die   Schwäche-n   des   bedeutend-st-en   . . .
   ART.DEF:ACC.PL   weakness-PL   ART.DEF:GEN.SG.M   eminent-SUP-GEN.SG.M
   zu   erkenn-en.
   to   recognize-INF

   'Even the basest of humans is capable of detecting the weaknesses of those most
   eminent.' (Adorno, *Minima Moralia*)

6.1 Summary of the Analysis

I propose that *schon* and *noch* in the scalar sufficiency use are propositional operators
which contribute a presupposition that their focus yields a more informative answer
(than all alternatives under consideration) to a QuD that inquires about sufficient
degrees of some property. As such, their meaning encompasses that of scalar additive
operators like *sogar* 'even' and *auch nur* 'so much as'. The two expressions differ from
each other in that they evoke complementary perspectives.

More precisely, with *schon*, a high degree of propositional strength goes together
with a low focus value (a low degree of some salient property). Correspondingly, this
expression is distributionally restricted to those environments in which inferences
run from less to more; using Gast & van der Auwera's (2011, 2013) terms, it constitutes
a BENEATH operator. The initial example (1a) (*Schon eine Tasse am Tag senkt dauerhaft den
Blutdruck*) is thus felicitous in the contexts of QuDs such as "How much coffee is
needed . . . ?" It signals that the bar for achieving positive effects lies lower than the
addressee may assume, in that a single cup per day suffices. This analysis mirrors
what has been described, albeit in different terms, for French *déjà* and Italian *già* in
structurally parallel use (see Mosegaard Hansen 2008:183–185, Mosegaard Hansen &
Strudsholm 2008); I return to cross-linguistic issues in section 6.6.

With *noch*, on the other hand, propositional strength positively correlates with focus
value; in Gast & van der Auwera's (2011, 2013) typology, it is a type of BEYOND operator.
But, as a refreshing twist, *noch* operates on a propositional schema of inverse sufficiency:
its ranking of propositional strength is based on the antonymic ordering of some
contextually salient scale. Applying this to the initial example, (1b) (*Noch der armseligste
Mensch ist fähig, die Schwächen des bedeutendsten zu erkennen*), is felicitous in the context of
questions such as "Who has what it takes to detect the weaknesses of others?" In
response, it counters an assumption that the basest of humans is too *un*remarkable to be
capable of such an act (thereby giving rise to an exhaustive reading).

In other words, both *schon* and *noch* involve a reversal of the direction in which
inferences run. With *schon*, a lower focus value yields a stronger statement. With *noch*,
great propositional strength goes together with a high focus value, but this is based
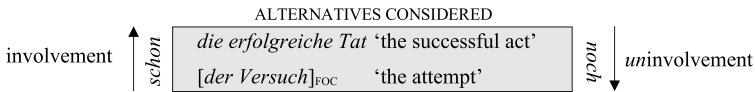
Figure 2. Graphic illustration of (26).

on an upside-down scalar model. This "glass half empty/half full" situation is, without doubt, the reason for König's (1991:134) observation that in cases like (26) "the contrast between *schon* and *noch* is almost neutralised."[17] That is, (26a) and (26b) are logically equivalent, but address different questions: "When do I get into trouble?" or "Where does an offense begin?" (26a) versus "How deeply in trouble am I?" or "How far does an offense extend?" (26b). A graphic comparison is given in figure 2.

(26)

a. **Schon** [der   Versuch]_{FOC} ist   straf-bar.
    already ART.DEF:NOM.SG.M attempt(M)   COP.3SG punish-able

b. **Noch** [der   Versuch]_{FOC} ist   straf-bar.
    still   ART.DEF:NOM.SG.M attempt(M)   COP.3SG punish-able

    both: 'Even the attempt is an offense.' (König 1991:134)

Moving on to the question of intra-systemic motivation, in section 3 I showed that *schon* and *noch* pattern together as scalar operators with temporal frame adverbials and expressions standing in for such a frame setter, a function that brings them markedly close to scalar additives. It is from this use that *schon* and *noch* as scalar sufficiency operators inherit their first bundle of features, namely the association with focus and its syntactic correlates, the open scalar variable, and the specification of a high degree of informativeness (propositional strength). As a matter of fact, temporal or time-relational overtones are often latently available, in that many examples can be read as primarily scalar, but also subtly evoke a qualitative change over time, or a sequential consideration of alternatives in the form of a "mental category scan," to use a term from Mosegaard Hansen (2008:181). The notion of degrees of sufficiency (both items) and the inverted scale that *noch* brings out are characteristic of the marginality uses discussed in section 4. In fact, the same meaning, or virtually so, can be rendered compositionally by resorting to a more canonical scalar additive operator plus marginality *schon* or *noch*. This is shown in (27).

(27)

a. **Sogar** [ein-e   Tasse   a-m   Tag]_{FOC} senk-t
    even   one-NOM.SG.F cup(F)   at-ART.DEF:DAT.SG.M day(M)   lower-3SG
    schon den   Blut-druck.
    already ART.DEF:ACC.SG.M   blood-pressure(M)

    'Even one cup [of coffee] per day already results in a lower blood pressure.'

_____

[17] Note that as an out-of-the-blue utterance (26b) is perceived as rather forced by most speakers.

b. **Sogar** [der   armselig-st-e   Mensch]$_{FOC}$ ist   dazu
   even   ART.DEF:NOM.SG.M   dismal-SUP-NOM.SG.M   human(M)   COP.3SG   of_that
   noch fähig.
   still   capable

   'Even the basest of humans is still capable of that.'

The interweaving of time-scalar *schon* and *noch* and their marginality counterparts is facilitated by the fact that, across the two sets of uses, *schon* consistently involves relata that rank higher on some scale, whereas *noch* relates to lower alternatives. It finds additional motivation in the use of *schon* and *noch* with narrow focus and monotone changes along some scale (section 2). Possible bridging contexts are found in examples like (28), which allows for two mutually compatible readings. In the first interpretation, *am Grabe* represents the latest stage of the 'weary race'. In the second reading, it stands for the maximal removal from one's prime of life.

(28) Die Hoffnung führt ihn ins Leben ein // Sie umflattert den fröhlichen Knaben // Den Jüngling begeistert ihr Zauberschein // Sie wird mit dem Greis nicht begraben // Denn beschließt er im Grabe den müden Lauf //

'Hope brings Man to life // she flutters about the cheerful boy // the youth is delighted by her magic shine // she is not buried with the old man // for though at the tomb ends his weary race'

Noch [a-m   Grab-e]$_{FOC}$ pflanz-t   er   die
still   at-ART.DEF:DAT.SG.N   grave(N)-DAT   plant-3SG   3SG.M   ART.DEF:ACC.SG.F
Hoffnung auf.
hope(F)   up

'Even/as late as at his grave, he plants hope.' (Schiller, *Hoffnung*)

In what follows, I discuss each of the ingredients of my analysis in more detail and present diagnostic evidence for them. In doing so, I proceed from the more general to the more specific elements (sections 6.2–6.4). Subsequently, I address a few additional differences between *schon* and *noch* (section 6.5) and offer a brief summary plus theoretical and cross-linguistic reflections (section 6.6).

6.2 The Commonalities

Before turning to the more intricate questions, it is necessary to establish the commonalities between the two markers, namely that they constitute focus-sensitive operators which signal a high rank in a propositional schema involving degrees of sufficiency, and that the latter constitutes presupposed material.

As far as the first point is concerned, König (1991:153–154, 1993) discusses how *schon* and *noch* in cases like (1) and (26) show all the hallmarks of German focus-sensitive operators. They are syntactic sisters to another constituent, as evidenced by their co-occurring in the forefield of V2 clauses, such as in (1), and by their moving through the clause together, as seen in the permutations of (1) in (1'). In addition, they are cross-categorical: they often function adnominally, as in (1) and (26), but they are also attested in conjunction with elements from other syntactic classes, such as the endophoric element *deshalb* in (29). This constituent, in turn, is

identifiable as containing the focus in both prosodic and semantic terms: It receives nuclear stress, invokes alternative denotations, and is the target of a WH-question addressed by the sentence (e.g., "How much coffee is needed . . . ?", "Who is capable . . . ?", "For which reason?").

(1')

a. Den   Blut-druck   senk-t **schon** [ein-e
 ART.DEF:ACC.SG.M blood-pressure(M) lower-3SG already one-NOM.SG.F
 Tasse a-m   Tag]_FOC.
 cup(F) at-ART.DEF:DAT.SG.M day(M)

 'What lowers blood pressure is so much as a single cup per day.'

b. Fähig dazu ist **noch** [der   armselig-st-e
 capable of_that COP.3SG still ART.DEF:NOM.SG.M dismal-SUP-NOM.SG.M
 Mensch]_FOC.
 human(M)

 'Even the basest of humans is capable of that.'

(29) Der   Vorschlag muss **schon** [deshalb]_FOC abgelehnt
 ART.DEF:NOM.SG.M suggestion(M) must.3SG already therefore reject.PTCP
 werd-en, weil er   nicht detailliert ausgearbeitet worden
 become-INF because 3SG.M NEG detailled flesh_out.PTCP become.PTCP
 ist.
 COP.3SG

 'The proposal must be discarded if only for the reason that it has not been worked out in detail.' (König 1977:186)

Having established that we are dealing with focus-sensitive operators, I now turn to the core commonality of the two items: Whatever the denotation of their focus, it is invariably understood as being a rung on a scale of sufficiency and is related to alternatives that yield a less informative proposition (i.e., to more clear-cut or less "unexpected" cases). Thus, as discussed above, in (1a) the bar for achieving the desired effects is set lower than the addressee might assume. Similarly, (1b) counters the implicit assumption that the basest of humans has insufficient qualities to be capable of detecting the weaknesses of those morally superior. In the same vein, (29) evokes closer degrees of examination of the proposal and implies that they will lead to the same conclusion. Examples like the ones in (30) and (31), on the other hand, are markedly odd. If interpretable at all, they can only mean that the entity denoted by the focus has a remote, yet sufficient, degree of some property to form an applicable argument for the predicate. In other words, the only possible interpretation is one that is parallel to the one discussed for the preceding examples.[18]

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[18] This is broadly reminiscent of Coppock & Lindahl's (2014) observations on the availability of minimal sufficiency readings with English *just*.

(30) ?**Schon/noch** der   JenTower   ist   ein
     already/still   ART.DEF.NOM.SG.M   JenTower(M) COP.3SG ART.INDEF:NOM.SG.N
     Gebäude.
     building(N)

    'Even the JenTower counts as a building.'

(31) ?**Schon/noch** das   Huhn   flieg-t.
     already/still   ART.DEF:NOM.SG.N   chicken(N)   fly-3SG

    'Even the chicken flies (can be said to count as flying).'

In section 1.3 I briefly pointed out that scalar additives can differ in their sensitivity to scalar endpoints. Thus, with "run-of-the-mill" scalar additives, such as English *even*, the text proposition outranks all contextually salient alternatives; this may or may not mean that it occupies the highest rank in the entire model (Kay 1990). Expressions like Spanish *hasta*, Hindi *-tak*, and Dutch *ook maar*, on the other hand, require the focus to constitute a genuine endpoint (Hoeksema & Rullmann 2001, Schwenter & Vasishth 2001, Schwenter 2003).

Against this backdrop, *schon* and *noch* stand out as recurrently being attested in end-of-scale assertions. Thus, in (1a) a single cup arguably constitutes the minimal unit of coffee, (1b) features a superlative, and in (29) a lack of elaboration can be considered to be the least specific argument against a proposal. That said, a threshold value does not appear to form a prerequisite. For one, a collocational preference for endpoints can equally well be explained by the fact that the latter provide a particularly suitable environment for the employment of scalar additive operators (cf. Kay 1990:89). Secondly, scalar sufficiency *schon* and *noch* can be used in "scale-climbing" contexts, similar to what was seen for other uses in sections 3 and 4. For *schon*, this is shown in (32) and (33).[19] The constructed example (32) features a decrease in dosage and the natural attestation in (33) involves a metaphorical downward movement on a scale of "amounts of linguistic information." Yet neither of the two cases gives rise to self-contradiction.

(32) **Schon** [drei]$_{FOC}$, ja   (auch) **schon** [zwei Tropf-en]$_{FOC}$ von
     already three   yes   also   already two drop-PL   of
     dies-er   Arznei   genüg-en,   einen   Mensch-en
     PROX-DAT.SG.F medicine(F) suffice-3PL ART.INDEF:ACC.SG.M   human(M)-ACC.SG
     einzuschläfern.
     to.sedate.INF

    'So much as three, as a matter of fact, so much as two drops of this medicine are sufficient to sedate a person.'

(33) … und **schon** [aus den   erst-en   Sätz-en]$_{FOC}$,   ja sogar
     and   already from ART.DEF:DAT.PL first-DAT.PL sentence-DAT.PL   yes even
     schon [aus dem   Ton   der   erst-en
     already   from ART.DEF:DAT.SG.M sound ART.DEF:GEN.PL   first-GEN.PL
     Wort-e]$_{FOC}$ erriet   ich, daß   sie   ein
     word-GEN.PL   guess.PST.1SG 1SG   COMP   3PL   ART.INDEF:ACC.SG.N

                                                              (Continued)

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[19] I'd like to thank an anonymous reviewer for pointing out these examples to me.

(Continued)

geheimnisvoll-es	und	bedenklich-es	Gespräch	führ-t-en.
mysterious-ACC.SG.N	and	disconcerting-ACC.SG.N	conversation(N)	lead-PST-3PL

'. . . and from so much as the first sentences, from the mere tone of the first words I could judge that they were leading a mysterious and disconcerting conversation.' (Dostoevsky, *The Adolescent*, translated by E. K. Rahsin)

The same observation applies, *mutatis mutandis*, to *noch*. Thus, the continuation of the constructed example in (34) features a greater removal from the standard of a crime than the subject of the preceding clause, and the naturally occurring example given in (35) involves an increase in dilution.

(34) Context: in the case of terroristic acts.

Noch	[der		Versuch]₍FOC₎	ist		straf-bar.	Ja	(selbst)
still	ART.DEF:NOM.SG.M	attempt(M)		COP.3SG	punish-able	yes	even
noch	[der		Plan]₍FOC₎	bleib-t		nicht	un-ge-ahnde-t.	
still	ART.DEF:NOM.SG.M	plan(M)		remain-3SG	NEG	un-PTCP-punish-PTCP		

'Even the attempt is an offense. In fact, even the plan is subject to punishment.'

(35) Context: about the number of antibodies necessary to bind cholera viruses.

. . . zwei	weiter-e		Kultur-en	wurd-en		bei	1:50,	wieder	2
two	additional-NOM.PL	culture-PL	become.PST-3PL	at	1:50	again	2		
noch	[bei	1:100]₍FOC₎,	ja	ein-e		Kultur	wurd-e		
still	at	1:100	yes	one-NOM.SG.F	culture(F)	become.PST-3SG			
sogar	**noch**	[bei	1:200]₍FOC₎	agglutinier-t,	doch	hier-mit	war	auch
even	still	at	1:200	agglutinate-PTCP	but	here-with	COP.PST.3SG	also
bei	dies-em		Stamm	der		Grenz-wert		erreich-t.
at	PROX-DAT.SG.M	strand(M)	ART.DEF:ACC.SG.M	border-value(M)	reach-PTCP			

'. . . two other cultures were agglutinated at [a dilution of] 1:50, yet another two even at 1:100, in fact, one culture even at 1:200, but therewith the limit had been reached, even for this particular strand.' (Rissling 1907: 369)

Such cases of figurative motion along a scale strongly suggest that a reading of the focus as an endpoint goes back to a generalized scalar implicature, in line with Kay's (1990:90 fn. 32) observation that with English *even* "the item focused . . . is (normally) implicated to be the most extreme item of which the asserted predication is true," compounded by the fact that questions of sufficiency usually call for an exhaustive answer (e.g., Beck & Rullmann 1999). At the same time, this implicature can also be derived by evoking the marginality use, which features a perspective towards an endpoint (section 4.1). Further support for threshold readings being due to implicature comes from the nonredundant reinforcement 'therewith the limit had been reached' in (35).

Lastly, the status of the different meaning components needs to be addressed. Standard projection contexts show that the propositional complement of *schon* and *noch* constitutes at-issue content, whereas the ranking on a scale is presupposed. For instance, the proposition is not entailed in questions (36) or under negation (37), whereas the rank order survives in such contexts.

(36)

a. Senk-t **schon** [ein-e   Tasse   a-m   Tag]_FOC
    lower-3SG already one-NOM.SG.F cup(F)   at-ART.DEF:DAT.SG.M day(M)
    den   Blut-druck?
    ART.DEF:ACC.SG.M blood-pressure(M)

    'Does so much as a single cup per day result in a lower blood pressure?'
    ↛ 'A single cup per day results in a lower blood pressure.'

b. Ist   **noch** [der   armselig-st-e   Mensch]_FOC dazu
    COP.3SG   still ART.DEF:NOM.SG.M dismal-SUP-NOM.SG.M   human(M)   of_that
    fähig?
    capable

    'Is even the basest of humans capable of that?'
    ↛ 'The basest of humans is capable of that.'

(37)

a. Es   ist   nicht so,   dass **schon** [ein-e   Tasse
    3SG.N COP.3SG NEG   thus COMP already   one-NOM.SG.F cup(F)
    a-m   Tag]_FOC den   Blut-druck   senk-t.
    at-ART.DEF:DAT.SG.M day(M) ART.DEF:ACC.SG.M blood-pressure(M) lower-3SG

    'It's not the case that so much as a single cup per day results in a lower blood
    pressure.'
    ↛ 'A single cup per day results in a lower blood pressure.'

b. Es   ist   nicht   so,   dass **noch** [der   armselig-st-e
    3SG.N   COP.3SG NEG   thus   COMP still ART.DEF:NOM.SG.M dismal-SUP-NOM.SG.M
    Mensch]_FOC dazu   fähig   ist.
    human(M)   of_that capable COP.3SG

    'It's not the case that even the basest of humans is capable of that.'
    ↛ 'The basest of humans is capable of that.'

6.3 The Differences: BENEATH versus BEYOND

Having established that *schon* and *noch* in the relevant use signal that the focus
denotation yields a more informative answer to a sufficiency QuD than all
alternatives under consideration, the differences between the two items are up for
examination.

To address the first point of divergence, a brief excursion is needed. As mentioned
in section 1.3, we can distinguish between two primary flavors of scalar additives,
based on the correlation between the high rank of their propositional argument in a
scalar model and the relative rank of the focus on some salient scale. With a BENEATH
operator, to employ Gast & van der Auwera's (2011, 2013) mnemonic label, the
correlation is negative. Correspondingly, this type of operator is felicitous only in
those environments that license inferences from low to high, but not the other way
around. In different traditions, such less-is-more contexts are referred to as "scale-
reversing" (e.g., Haspelmath 1997, Gast & van der Auwera 2011), "downward-
entailing" (Ladusaw 1979), or "downward monotonic" (Gamut 1991). Well-established

cases of dedicated BENEATH operators include English *so much as*, German *auch nur*,[20] and Italian *anche solo* (Gast & van der Auwera 2011, 2013, and references therein). With BEYOND operators such as German *sogar* or Italian *perfino*, on the other hand, high propositional strength is aligned with a high focus value. It follows that these items are only found in those environments in which more is indeed more, i.e., contexts that go by the name of "scale-preserving," "upward entailing," "upward monotonic," and the like.[21]

Equipped with this background, I now return to the two items in the spotlight of this article. According to the analysis I propose, *schon* signals that a lower rank on a salient scale yields a more informative proposition. It therefore constitutes a hyponym of the BENEATH operator *auch nur*. This predicts that, like the latter, *schon* is felicitous in less-is-more ("scale reversal") environments, but not in more-is-more ("scale preserving") ones. A first indication of this was seen in (1a), repeated below. Here, achieving the desired effects by a lower daily dose than perhaps assumed yields a more informative proposition. Correspondingly, *schon* can be faithfully swapped for *auch nur*, the main and subtle difference in meaning being that with *schon*, a time-related reading 'after drinking a single cup, you'll have achieved the effect' remains latently available.

(1a) **Schon(/✓auch nur)** [ein-e   Tasse   a-m   Tag]~FOC~
        already/so_much_as one-NOM.SG.F cup(F) at-ART.DEF:DAT.SG.M   day(M)
        senk-t   dauerhaft   den   Blut-druck.
        lower-3SG   permanently   ART.DEF:ACC.SG.M   blood-pressure(M)

'So much as one cup [of coffee] per day results in a permanently lower blood pressure.' (found online)

Example (38) is another illustration. Here, the first sentence of the text establishes a life of slavery as the discourse topic and a lower threshold for things 'beyond imagination' corresponds to a higher degree of entrenchment of the known circumstances; see (38b). This interpretation is supported by the fact that *auch nur* is a viable substitute for *schon*.

(38) Context: Die Menschen in Whiteheads Roman wurden meist bereits in die Sklaverei geboren, oft schon seit mehreren Generationen.

'Most of the people in Whitehead's novel were born into slavery, often for many generations.'

a. **Schon(/✓auch nur)**   [die   Idee   ein-es
        already/so_much_as   ART.DEF:NOM.SG.F idea(F) ART.INDEF:GEN.SG.N
        ander-en   Leben-s]~FOC~, die   Hoffnung auf Flucht, liegt
        other-GEN.SG.N life(N)-GEN   ART.DEF:NOM.SG.F   hope(F)   on escape   lie-3SG
                                                                                    (Continued)

---

[20] I follow works such as König (1991), Schwarz (2005) and Gast & van der Auwera (2011, 2013) in treating *auch nur* (lit. 'also only') as a single, bimorphemic operator.

[21] A third, flexible type is termed UNIVERSAL scalar additives by Gast & van der Auwera (2011, 2013). A prime example is English *even*. Thus, depending on discourse context, *I doubt that he **even** [beat that man]*~FOC~ can have a BENEATH reading ('. . . let alone inflicted more harm') or a BEYOND one ('not only insulted but . . .').

(Continued)

für die	meist-en	von ihnen	außerhalb der
for ART.DEF:ACC.PL	most-ACC.PL	of 3PL.DAT	outside ART.DEF:GEN.SG.F

Vorstellungskraft.
imagination(F)

'The mere idea of a new life, the hope of making an escape, is beyond imagination for most of them.' (found online)[22]

b. QuD: How accustomed are they to a life of slavery?

CHANGE ↓ | [The idea of a new life]_FOC is beyond imagination. | ↑ ACC.'ED
The plan of an escape is beyond imagination.
The attempt at an escape is beyond imagination.
Achieving a new life is beyond imagination.

A similar case is found in (39). A lower degree of sensory stimulation here yields a more informative answer to the question as to how appalled the speaker is: feeling nausea at the mere sight of sugared water normally entails the same reaction to tasting or swallowing it, but not the other way around. Again, this is confirmed by the felicity of *auch nur*.

(39) Context: about drinking sugared water to test the body's insulin reaction; the forum post reacted to contains a photo of a cup.

Wenn	ich	das	s**chon**(/✓**auch nur**)	[seh-e]_FOC,	wird	mir
when/if	1SG	3SG.N.ACC	already(/so_much_as)	see-1SG	become.3SG	1SG.DAT

schlecht.
sick

'Just seeing that makes me feel sick.' (found online)[23]

Further support for *schon* being compatible with scale reversal contexts comes from the (somewhat redundant, but attested) combination *auch nur schon*, illustrated in (40).

(40)

Wenn	ich dann ...	**auch nur**	**schon**	[erahn-en]_FOC	kann, dass
when/if	1SG then	so_much_as	already	vaguely_sense-INF	can.1SG COMP
mein-e	Arbeit	etwas	bewirk-t ...	dann ist	das
POSS.1SG-NOM.SG.F	work(F)	something	effect-3SG	then COP.3SG	3SG.NOM.N

perfekt.
perfect

'If I can ... so much as vaguely sense that my work makes a practical difference ... that's perfect.' (found online)[24]

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[22] https://autorenbuchhandlung-marx.de/www/buchempfehlung-colson-whitehead-underground-railroad/ (accessed June 26, 2022)

[23] www.babycenter.de/thread/132047/frauenarzttermine-untersuchungen-und-ultraschallbilder-teil-4?startIndex=900 (accessed July 13, 2022).

[24] https://40.oeko.de/wissenschaftliche-arbeit-mit-konkreter-praktischer-wirkung/ (accessed July 11, 2022)

The examples so far have given positive evidence that *schon* is compatible with less-is-more environments. Evidence that it is infelicitous outside of these contexts can be found in cases like (41). Here, a BEYOND operator like *sogar* fares well, whereas *schon* patterns with *auch nur* in being extremely odd. The only way to make sense of the latter would be by adding a precursor such as 'You don't need much to please his taste', thereby effectively introducing a less-is-more context.

(41) **Sogar(/?auch nur/?schon)** [richtig gruselig-e   Film-e]_{FOC} gefall-en   Gregor
      even/?so much as/?already   really   scary-NOM.PL movie-PL please-3PL G.

      'Gregor even likes really scary movies.'

Moving over to a more natural example, consider (5), repeated below. Given the positive correlation between informativeness and the degree of control exercised, *schon* once again patterns with *auch nur* in being infelicitous. For further examples of negative evidence, see below.

(5) Was   ist   das   für ein   Mensch, dass
     what   COP.3SG 3SG.N for ART.INDEF:NOM.SG.M   human(M) COMP
     sogar(/#auch nur/#schon) [die   Wind-e und das
     even/#so_much_as/#already   ART.DEF:NOM.PL wind-PL and ART.DEF:NOM.SG.N
     Wasser]_{FOC} sein-em   Befehl   gehorch-en?
     water(N)   POSS.3SG.M-DAT.SG.M   command(M) obey-3PL

     'Who is this? He commands even the winds and the water, and they obey him.'
     (Luke 8:24–25, *Einheitsübersetzung*)

In sum, the preceding discussion has shown that *schon* in the relevant use is not only felicitous in contexts where inferences run from less to more, but infelicitous outside of these. It thus classifies as a BENEATH operator in Gast & van der Auwera's (2011, 2013) typology.

As for *noch*, my analysis has it that this item is a special case of a BEYOND operator, invariably aligning a high degree of some property with a high-ranking proposition. In this, its meaning encompasses that of the more canonical BEYOND operator *sogar*. Against this backdrop, consider (42). Nothing in the discourse context suggests inferences from (propositions containing) lower to higher values, which is supported by the fact that swapping *noch* for the the BENEATH operator *auch nur* results in infelicity, and so does using *schon*. The BEYOND operator *sogar*, on the other hand, is a viable replacement. The choice of *noch* over *sogar* might be partially motivated by the fact that *noch* allows for a secondary reading in which the social media posts become more absurd over time.[25]

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[25] At first glance, attestations like (ii) might be taken as counterexamples. Here, *noch* combines with a minimizer such as *Pfifferling* 'a tinker's dam' and substitution with *auch nur* 'so much as' is possible without too drastic a change in overall interpretation. However, such cases are clearly based on PhP *noch* ('Who would be willing to invest in nuclear power anymore …' plus a narrow focus on a monotone decrease '[even if it were only] a tinker's dam'. Thus, note the decrease context in (ii) and the common

(42)

a. Context: from an article about the "age of disinformation."

Die einen feiern schließlich die dreiste Selbstermächtigung von Trump und
Co.und reden sich beharrlich ein,
'Lastly, some celebrate Trump and company's bold self-authorization and talk
themselves into believing'

dass	**noch(/✓sogar /#auch nur#schon)**	[der	dümmst-e
COMP	still/even/so_much_as/#already	ART.DEF:NOM.SG.M	stupid:SUP-NOM.SG.M
Tweet]_FOC	die	Wahrheit sp[r]ech-e.	
tweet(M)	ART.DEF:NOM.SG.M	truth(F) speak-SBJV.3SG	

'that even the most stupid tweet tells the truth.' (found online)[26]

b. QuD: How far removed from the standard of truth are those people?

'They are inclined to believe [the most stupid tweet]_FOC.'
'They are inclined to believe a very stupid tweet.'
'They are inclined to believe a stupid tweet.'
'They are inclined to believe a regular tweet.'

(with marginal label IMPLAUSIBLE on the left, arrows, and REMOVED on the right)

Example (1b), repeated below, presents a similar image. Here, *noch* could be
swapped for the BEYOND operator *sogar*, while staying faithful to the original text.
Similar to (42), the main difference is that *noch* subtly evokes prior consideration of
less morally depraved subjects. Using *auch nur* instead of *noch*, on the other hand,
results in infelicity. Lastly, *schon* does – at least without further context – constitute a
somewhat viable substitute. Crucially, however, its employment would result in a
reading of minimal sufficiency 'need look no further than …', as opposed to the
inclusive 'ranging all the way to …' idea conveyed by the original text.

(1b)

Noch(/✓sogar /#auch nur?schon)	[der	armselig-st-e
still/even/#so_much_as/?already	ART.DEF:NOM.SG.M	dismal-SUP-NOM.SG.M
Mensch]_FOC	ist	fähig, die Schwäche-n des
human(M)	COP.3SG	capable ART.DEF:ACC.PL weakness-PL ART.DEF:GEN.SG.M
bedeutensten …	zu erkenn-en.	
eminent-SUP-GEN.SG.M	to recognize-INF	

'Even the basest of humans is capable of detecting the weaknesses of those most
eminent.' (Adorno, *Minima Moralia*)

---

co-occurrence of *kaum noch* 'hardly still' with a minimizer (*kaum noch einen Pfifferling wert sein* 'to hardly
be worth a tinker's dam anymore').

(ii)   Weltweit geht die Nachfrage nach Atomkraftwerken zurück …
'Globally, demand for nuclear power plants is receding.'

Wer	würd-e	**noch**	einen	Pfifferling	auf Atom-kraft-aktie-n
who	become.COND-3SG	still	ART.INDEF:ACC.SG.M	tinker's_dam(m)	on atom-power-share-ACC.PL
setz-en?					
bet-INF					

'Who would be willing to bet (so much as) a tinker's dam on nuclear power stock anymore?'
(www.zeit.de/2001/02/Atomare_Profite; accessed January 2, 2022)

[26] https://taz.de/Zeitalter-der-Desinformation/!5693636/ (accessed July 5, 2022).

The same difference in viewpoint can be observed in (43), which is based on (39) above. The BENEATH operator *schon* in (43a) yields the familiar reading of a minimally sufficient condition: The speaker states that they need not go any further than seeing the sugared water to feel nausea. With *noch* in (43b), on the other hand, seeing the water is a more advanced step than the alternatives – albeit a step in the opposite direction, *away* from consuming the water (a higher degree on an inverted scale). The latter point provides a direct segue to the last ingredient of my analysis.

(43) Context: about drinking sugared water to test the body's insulin reaction.

a.   **Schon** [das   zu   seh-en]_{FOC} . . .   da   wird   mir   schlecht.
      still   3SG.N to   see-INF   there become.3SG 1SG.DAT sick

      'Just seeing that [let alone trying it] . . . it makes me feel sick. '

b.   **Noch** [das   zu   seh-en]_{FOC} . . .   da   wird   mir   schlecht.
      still   3SG.N to   see-INF   there become.3SG 1SG.DAT sick

      'Even seeing that [e.g., after trying it, or considering trying it] . . . it makes me feel sick.'

6.4 The Additional Twist: More of Less Is More

In view of the behavior of *noch* in examples like (43b), it is worthwhile taking a second look at its textual attestations. One common denominator stands out: The propositional argument goes together with a high rank on an inverted scalar model (a scale whose ordering is defined antonymically). Working our way backwards, example (42) involves a scale of implausibility, an interpretation that finds support in the surrounding text: The complement clause containing *noch* is introduced by *sich einreden* 'talk oneself into believing', which is oriented towards the reverse, and the discourse topic is defined negatively as well (the age of *dis*information). Example (35) features degrees of dilution, that is, a ranking based on negative exponents, and (1b) plays with opposing ends of the same spectrum ('the basest of humans' versus 'the most eminent'). Somewhat comparable to (1b), in (47) below the reversal of standards is made explicit in the immediately preceding sentence: The expressions of life 'enter the service of their diametrical opposite'.

Crucially, while nothing prevents a more conventional BEYOND operator like *sogar* from combining with such negative scales, they do not constitute a prerequisite for its employment. In fact, it is in comparison with such canonical scalar additives that the negative orientation of *noch* becomes particularly evident. Consider, for instance, (44). Employing *noch* here would not per se yield an ill-formed statement. But it would require an unusual embedding, such as a context in which Hanna allowed all kinds of lowlifes to her wedding, plus a discourse universe in which the pope is the epitome of an undesirable guest ('It wasn't exactly a select crowd. The most horrible characters attended, ranging all the way down to the Pope.')

(44) **Sogar(/?noch)** [der   Papst]_{FOC} kam   zu   Hanna-s
      even/still   ART.DEF:NOM.SG.M pope(M) come.PST.3SG to   H.-GEN
      Hochzeit
      wedding

    'Even the Pope attended Hanna's wedding.'

    Turning to a naturally occurring example, swapping *sogar* for *noch* in (45a) would result in outright infelicity. The QuD here pertains to the degree of impact the 1873 financial crisis had, and the relevant property scale are ranks on the (positively defined) socio-economic pyramid; see (45b). This conflicts with the negative orientation that would go along with *noch*.

(45)

a. Zahlreiche Familien wurden vollständig ruiniert, darunter auch solche der alteingesessenen »guten Gesellschaft«.

    'Many families were ruined completely [in the 1873 financial crisis], amongst them members of the old-established "high society".'

    Sogar(/#noch) [der   einst   wie ein
    even/still   ART.DEF:NOM.SG.M formerly   like ART.DEF:NOM.SG.M
    Fürst   regier-end-e   Strousberg]_{FOC} end-et-e   wenig später
    monarch(M) rule-PTCP-NOM.SG.M S.   end-PST-3SG little later
    als   Bettler.
    as   beggar

    'Even Strousberg, who had been ruling like a monarch, ended up as a beggar shortly after.' (Kurz, *Schwarzbuch Kapitalismus*)

b. QuD: How much of an impact did the financial crisis have?

Propositional content		Impact
[Strousberg]_{FOC} was ruined.	→	Extreme
Members of the "high society" were ruined.	→	Considerable
Families were ruined.	→	The usual

    To summarize, the appropriateness conditions of scalar sufficiency *noch* include an inverted scale, reflecting, in essence, what was seen for marginality *noch* in section 4.1. I return to some of the theoretical and typological implications of this in section 6.6 below.

6.5 Some further differences

Before concluding my exposition of *schon* and *noch* as scalar sufficiency operators, it is worth addressing a few more differences between the two expressions. The first difference relates directly to the topic of the preceding section: The *DWDS* dictionary (BBAW n.d.: s.v. *noch*) observes a conventional association of scalar sufficiency *noch*, but not *schon*, with "einem Satzglied mit negativ bewertetem Inhalt" [a constituent with a negatively evaluated meaning]. This association is clearly reflected in collocates like *der armseligste Mensch* 'the basest of humans' in (1a) or *der dümmste*

Tweet 'the most stupid tweet' in (42). Example (46) is another such case, with the focus 'the son who abused him' constituting a particularly undesirable specimen of offspring.

(46) Einem   Vater   gleich, der   **noch** [den
      ART.INDEF:DAT.SG.M father(M)   alike   REL:NOM.SG.M still ART.DEF:ACC.SG.M
      Sohn,   der   ihn   mißhandel-t hat]_FOC   an
      son(M)   REL:NOM.SG.M   3SG.ACC.M   abuse-PTCP have.3SG   at
      sein   Herz   zieh-t.
      POSS.3SG.M:ACC.SG.N   heart(N) pull-3SG

   'Like a father who embraces even the son who abused him.'
   (Le Fort, *der Pabst aus dem Ghetto*, cited in BBAW n.d.: s.v. *noch*)

While the recurrent nature of such examples does point towards a strong association with negative evaluations, such an emotive meaning is not entailed. For instance, if (26b) (*noch der Versuch ist strafbar* 'even the attempt is an offense') carries any bouletic overtones at all, they can certainly be attributed to the topic of unlawful acts. Similarly, the degrees of dilution in (35) are clearly not subject to any subjective assessment. Rather than being an invariable part of the meaning of *noch*, the preference for negatively evaluated foci is probably best understood as an artefact that goes back to two closely intertwined factors. First, *noch*'s *raison d'être* lies in countering the (possibly implicit) assumption that the focus is insufficient to yield a true proposition. That is, the focus is often taken to be defective in some way. Secondly, it is well known that negatively defined property expressions often align with subjectively negative connotations (Lehrer 1985, Horn 1989:276, Paradis et al. 2012, among others).

Support for the interpretation just outlined comes from the excerpt in (47).[27] Here, the 'blossoming tree' is, by all social standards, an exceptionally innocent expression of life. However, it is portrayed against the background of a corrupted world. That is, we are effectively dealing with two negative signs that cancel each other out: In a setting where the default assumption of innocence no longer holds true, the blossoming tree corresponds to the highest value on a scale that is the inverse of dishonesty (hence honesty).

(47) Es gibt nichts Harmloses mehr. Die kleinen Freuden, die Äußerungen des
      Lebens, die von der Verantwortung des Gedankens ausgenommen scheinen,
      haben nicht nur einen Moment des Trotzes ... sondern treten unmittelbar in
      den Dienst ihres äußeren Gegensatzes.

   'There are no more innocent things. The little pleasures, expressions of life
   that seemed exempt from the responsibility of thought, not only have an
   element of childish defiance ... but directly enter the service of their
   diametrical opposite.'

                                                                    (*Continued*)

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[27] Theodor Adorno seems to have had a liking for scalar sufficiency *noch*.

(Continued)

Noch	[der	Baum, der	blüh-t]_{FOC},	lüg-t	

Noch [der   Baum, der   blüh-t]_{FOC}, lüg-t
still ART.DEF:NOM.SG.M tree(M) REL:NOM.SG.M blossom-3SG lie-3SG
in   dem   Augenblick, in welchem   man
in ART.DEF:DAT.SG.M   moment(M) in REL:DAT.SG.M IMPR
sein   Blüh-en   ohne   den   Schatten
POSS.3SG.M:ACC.SG.N blossom-INF without ART.DEF:ACC.SG.M shadow(M)
des   Entsetzen-s   wahrnimmt.
ART.DEF:GEN.SG.N terror(N)-GEN perceive.3SG

'Even the blossoming tree lies the moment it is perceived without the shadow of terror.' (Adorno, *Minima Moralia*)

My second observation is, at the current stage, a purely impressionistic one: It seems that scalar sufficiency *noch* is primarily encountered in formal and/or written registers, whereas *schon* is common across all diaphasic varieties. Subsequent corpus work, comparing written and oral texts, is needed to assess this impression.

The third and last observation is a structural one. Whereas both *schon* and *noch* are found with argument and adjunct foci, *schon* is occasionally attested with a predicate in its focus. This was seen in (39), repeated below. It appears that this kind of usage is restricted to a mostly idiomatic construction consisting of a conditional antecedent and a verb of perception, often with ellipsis of the following clause, as in (48). *Noch* is very odd, at best, in these contexts; see (49). Here, too, corpus work is needed to evaluate my impressions.

(39)   Wenn   ich   das   **schon**   [seh-e]_{FOC},   wird   mir   schlecht.
       when/if 1SG 3SG.ACC.N already see-1SG   become.3SG 1SG.DAT sick

       'Just seeing that makes me feel sick.'

(48)   Zuwachs,   Zuwachs,   Zuwachs, – wenn   ich   das   **schon** [hör-e]_{FOC}!
       accretion, accretion, accretion   if/when 1SG 3SG.N already hear-1SG

       'Accretion, accretion, accretion – Don't get me started on that topic!' (found online)[28]

(49)   ?Wenn   ich   das   **noch**   [seh-e]_{FOC},   wird   mir   schlecht.
       when/if 1SG 3SG.N.ACC still   see-1SG   become.3SG 1SG.DAT sick

       (intended: 'Just seeing that makes me feel sick.')

6.6 Summary and Discussion

In the preceding sections I have given diagnostic evidence for each of the ingredients of my analysis of *schon* and *noch* as scalar sufficiency operators. In what follows, I discuss some theoretical implications of this analysis and then turn to a cross-linguistic comparison.

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[28] www.mz.de/mitteldeutschland/fischer-kagel-vom-arendsee-zuwachs-zuwachs-zuwachs-wenn-ich-das-schon-hore-2017482 (accessed September 1, 2022).

As far as theoretical implications are concerned, the complementary perspectives evoked by *schon* and *noch* raise the question of how to deal with scale reversal (the reversal of the direction in which inferences run), both from a typological and from an ontological point of view. Thus, in the predominant school of thought, which is reflected in Gast & van der Auwera's (2011, 2013) typology of scalar additives, scale reversal is a primarily structural phenomenon. BENEATH operators ("less is more") such as *auch nur* or *so much as* are defined by recourse to two nested structural domains. They yield (what would be) a weaker proposition in their narrow local domain, whereas in a wider host domain they bring about a more informative proposition. Put differently, they require wide scope over some scale-reversing operator. This approach works very well for an item like *schon*, although it requires the occasional clutch of an implicit conditional in cases like (38a), repeated below.

(38a) **Schon** [die Idee eines anderen Lebens]_{FOC}, die Hoffnung auf Flucht, liegt für die meisten von ihnen außerhalb der Vorstellungskraft.

'The mere idea of a new life, the hope of making an escape, is beyond imagination for most of them.' (found online)

BEYOND operators ("more is more") like *sogar* or Italian *perfino* are usually understood as taking local scope. They therefore require a high focus value to satisfy the need for a high-ranking proposition. This means that there is no straightforward way of dealing with an item like *noch*. Recall that, in principle, *noch* behaves like a BEYOND operator in that it aligns a high focus value with a high-ranking proposition. This, however, neglects the fact that it requires the focus value to be ranked on a negatively defined scale.

All this becomes less of an issue in a usage-based approach. For one, what we are dealing with is a classic case of persistence (in both senses of the word). Simplifying slightly, *noch* addresses the question of the extent of (in)sufficient degrees – a textbook example of semantic retention (e.g., Hopper 1991), going all the way back to *noch* as 'still'. Now, in a radically pragmatic approach to scalar reasoning, such as the one proposed in Israel (2001, 2011), propositional strength and scalar ranks are both understood to form part of an individual item's lexical endowment. Seen from this angle, a BENEATH operator like *schon* or *auch nur* is lexically specified for a low rank on some salient scale, plus a strong statement. Its restriction to certain contexts is not a principally structural phenomenon, but rather a structural correlate of its core meaning. This, in turn, provides a motivated explanation for the felicity of cases like (39a), without the need to resort to a "silent" or reversal operator. The data on *noch* suggest that perspective (or scalar orientation) can constitute an additional, independent, and lexically specified parameter.

Moving on to a cross-linguistic comparison, in section 6.1 I pointed out that *schon* as a scalar sufficiency operator finds direct parallels in markers such as French *déjà* and Italian *già* (see Mosegaard Hansen 2008, Mosegaard Hansen & Strudsholm 2008); the examples in (50) are illustrations. The corresponding 'still' expressions *encore* and *ancora*, however, have not been described as having a similar use, and employing them in translations of examples like (1b) results in an ill-formed sentence; see (51). This is despite both items having the time-scalar as well as the marginality use.

(50)

a. French

Déjà [son   visage]_{FOC} me   déplaît.
already POSS.3:M face(M)   1SG.ACC displease.3SG

b. Italian

Già   [la   su-a   faccia]_{FOC} mi   piac-e   poco.
already ART.DEF:SG.F POSS.3SG-F.SG face(F)   1SG.ACC please-3SG little

both: 'His very face displeases me.' (Mosegaard Hansen 2008:183, Mosegaard Hansen & Strudsholm 2008:489)

(51)

a. French

Même(**#encore)** [le   plus   misérable d-es
even/still   ART.DEF:SG.M more/most miserable of-ART.DEF:PL.M
homme-s]_{FOC} est   capable de vo-ir   les   faiblesse-s de
man(M)-PL   COP.3SG capable of see-INF ART.DEF:PL weakness-PL of
l'-homme   le   plus   eminent.
ART.DEF:SG.M-man(M) ART.DEF:SG.M more/most eminent

b. Italian

Perfino(**#ancora)** [l'-uomo   più   miserabile]_{FOC} è
even/still   ART.DEF:M.SG-man(M) more/most miserable   COP.3SG
in grado di scopr-ire   le   debolezz-e   d-el
in stand of uncover-INF ART.DEF:PL.F weakness-PL.F of-ART.DEF:SG.M
più   degn-o.
more/most dignified-M

both: 'Even the basest of humans is capable of detecting the weaknesses of those most eminent.'

The notion of linguistic motivation is, of course, a nonpredictive one (e.g., Goldberg 2006:127). Nonetheless, it appears worthwhile to briefly reflect on this functional asymmetry. One reason appears to lie in the fact that *déjà* and *già* 'already' as time-scalar operators readily combine with expressions that "stand in" for a temporal frame adverbial (Mosegaard Hansen & Strudsholm 2008), whereas *encore/ancora* are odd in such uses; see (52). That is, a crucial intermediate step is missing for the latter two items.

(52)

a. French

?**Encore** [dans sa   tombe]_{FOC}, il   nourri-t   l'-espoir.
still   in   POSS.3SG:SG.F grave(F)   3SG.F nourish-3SG ART.DEF-hope

b. Italian

?**Ancora** [su-lla   tomba]_{FOC} nutr-e   la   speranza.
still   at-ART.DEF:SG.F grave(F)   nourish-3SG ART.DEF:SG.F hope(F)

(intended: 'Even at his grave, he nourishes hope.')

Beyond these intra-systemic factors, it is conceivable that the apparent cross-linguistic rarity of *noch*-like markers also finds an explanation in the high semantic and cognitive load of negative property expressions (Boucher & Osgood 1969, Higgins 1977, Lyons 1977:275–276, Lehrer 1985, among others). In other words, in natural discourse, a QuD of positive sufficiency might be more likely to arise than for the same state-of-affairs to be approached from the opposite end. This could also explain the restriction of scalar sufficiency *noch* to specific registers of German (if confirmed in subsequent research).

7. Conclusions and Outlook

In the present article I have given a descriptive analysis of German *schon* and *noch* as scalar operators with narrow, nontemporal in-situ focus. I have shown that both expressions function in a pragmatic model of sufficiency. They signal that focus denotation yields a more informative proposition than all alternatives under consideration. Where the two items differ is in their perspectives (the intricate interplay between propositional strength, values on a scale, and the orientation of the latter). Their syntactic and semanto-pragmatic core characteristics can be traced back to a blend of two other functions of the same items, namely: (i) as scalar operators modifying temporal frame expressions, and (ii) as markers of marginality. Both of these are, in turn, ultimately derived from *schon* as 'already' and *noch* as 'still'. Due to this legacy, a temporal or time-related reading (e.g., the sequential consideration of alternatives) often remains latently available.

Besides these primarily descriptive findings, the present article has made a contribution to our general understanding of focus-sensitive operators. Thus, the data on *noch* raise the principled question of the ontological and typological status of scale reversal phenomena (inferences running from less to more). In the predominant school of thought, which is reflected in Gast & van der Auwera's (2011, 2013) typology of scalar additives, scale reversal is a primarily structural phenomenon. This cannot account for an operator like *noch*, which positively aligns propositional strength with focus value, but based on an antonymic scale. From a usage-based perspective, on the other hand, this is essentially a non-issue. I have therefore suggested that scale reversal might better be treated as an independent parameter of variation, which is in line with more radically pragmatic approaches like the one advocated for by Israel (2001, 2011).

That said, several open questions remain. In the purely descriptive domain, two hypotheses require further corpus-based scrutiny. The first is that scalar sufficiency *noch* is a primarily written and/or formal phenomenon. The second hypothesis is that *schon* with predicate focus is only found in largely idiomatic constructions involving a conditional antecedent plus a verb of perception. Lastly, the apparent rarity of *noch*-like markers requires further cross-linguistic scrutiny.

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