i.e., as in:

E R

(9') Er gab zu, den Brief geschrieben zu haben.

He admitted having written the letter.'

There is little controversy about the proposed semantics for the Pluperfect and the Perfect infinitive, so that we may devote the discussion to (7), the analysis of the Perfect.

Let us note first that in (12), the meaning of the Perfect does not differ from that of the Preterite. It describes past time. Thus the following inference is expected to hold:

(10) PRET(x)

We predict then that the Perfect can replace the Preterite (or Past tense - these terms are used interchangeably here) without affecting truth value. This might, of course, affect e.g., syntax, in particular the well-known preference for the Preterite in narrative. This inference does indeed seem to hold.

Case (71) analyzes the use of the Perfect to describe future time. Three aspects of (71) should be noted. First, it only licenses the future use of the Perfect in contexts where reference time is future, e.g., those in which a future frame adverbials are appropriate. Frame adverbials are introduced by rule (11):

(11) for f a frame adverbial, a proposition

\[ \alpha_{fb} \mathcal{E} (p) \iff \sigma_{fb} \mathcal{E} \left( t_{fb} \right) \]

'f on \( \mathcal{E} \) stands for the semantic value of f with respect to the model and times indicated. In the case of nächstes Freitag 'next Friday', this obviously depends on speech time. This aspect of the analysis of frame adverbials, viz. that they fix reference time, is taken directly from Reichenbach's conception of reference time as 'the time from which an event is seen.' In fact, Reichenbach exploited this same analysis in his famous treatment of the Present Perfect in English. Cf. Reichenbach (1947:294). Using (11), we can derive the truth conditions for example (71). 'Frame' adverbials, as the very name suggests, have widest scope. (The term is from Bennet & Partee 1972.) We would thus assign (71) the analysis (10):

(12) n.F.(PERF(gr.d.B.schreiben))

By (11), this holds in \( \alpha_{fb} \mathcal{E} \left( t_{fb} \right) \) and \( \sigma_{fb} \mathcal{E} \left( t_{fb} \right) \): since next Friday clearly lies in the future with respect to \( t_{fb} \), it must apply (71), which yields that (12) iff (13).

(13) \( t_{fb} \in \left( t_{fb} \right) \mathcal{E} \) and \( t_{fb} \mathcal{E} \left( t_{fb} \right) \) and er d.B. schreibt holds at \( t_{fb} \).

The requirement in (71) that the future use of the Perfect be limited to situations with future reference time explains the distinction between (15) and (16).

(15) T. hat es noch nicht geschrieben, aber nächsten Freitag.

AUX he it yet not write(pret) but next FRIDAY has er es sicher geschrieben

AUX he it surely write(pret)

'T. hasn't written it yet, but he'll have it written by FRIDAY'

(16) T. hat es noch nicht geschrieben, aber er hat es sicher geschrieben

The second conjunct in (15) has a future reference time, as evidenced by the future adverbial, nächstes Freitag. The event time, i.e., the time of his writing, must precede this reference time, but it may still be in the future, as sketched in (14). This is compatible with the first conjunct, i.e., his not having written it to-date. So much future reference time is specified and the second conjunct of (16), which, moreover, may be expected to share the reference time of the first conjunct. This is the time denoted by noch, i.e., here, speech time. (71) specifies that this second conjunct be true iff the atomic proposition holds at some past event time, but this contradicts the first conjunct of (16), and the sentence is nonsensical.

The second important aspect of (71) to note is that it is not exactly Reichenbach's Future Perfect, reproduce below as (17). It is instead compatible both with (17) and with (18)

(17) n.F.(PERF(gr.d.B.schreiben))

That this is correct is evidenced by the possibility of sentences such as (19):

(19) Ich weiß nicht, ob er es geschrieben hat. 'Ich wissen I know not whether he [pret write] AUX next'

Freitag hat er es aber sicher geschrieben.

AUX he it but surely write(pret)

'I don't know whether he has written it (yet), but by next FRIDAY he'll have it written'
diate between tense and Perfect. We should like to find an element which would adopt the position of X in (23):

(23) PREC[X(PERF[p])]

This would confirm the compositional hypothesis quite to anyone's satisfaction. Hendrickx (1981:34) suggests that duratives have exactly this scope, citing (24) (his (4)) as proof:

(24) Erika hat diese Schlange schon lange getötet
    AUX this snake already for-a-long-time kill(past)
    'This snake has been dead for quite some time now and
    Erika killed it'

_Schon lange_ in combination with Present tense always specifies that the sentence modified has held 'for a long time now'. If the Perfect denotes the state resulting from Erika's killing the snake, then the temporal semantics of (24) follows from the compositional view where schon lange has the scope of X in (24). The example is flawed, however, in that schon lange doesn't function here as a durative. No clear example of duratives can replace _lange_ here, as (25) indicates:

(25) Erika hat diese Schlange schon zwei Stunden
    AUX this snake already two-hours
    getötet
    'she killed it'

If (25) is at all interpretable, then only in the sense that the act of killing, not its results, lasted the specified length of time. Thus _lange_ in (25) doesn't mean 'for a long time', but rather 'a long time ago.'

None of (1979:79) cautiously suggests that the compositional treatment provides an approach to the semantics of the Perfect in sentences such as (26):

(26) Seit zwei Stunden hat er seine Jacke ausgesogen
    since two hours AUX he his jacket off-take(past)
    'he took his jacket off and he's had it off for 2 hr.'

In (26), as in (24), the adverbial is understood to specify the duration of the state resulting from his removing his jacket.

This might naturally be captured by assigning _zwei Stunden_ the scope of X in (23). We might then explain how it is that the adverbial functions here exactly as it would in a Present tense sentence and not at all as it would in a Past tense sentence.

The real explanation for this, and the source of error in the above argument, lies in the fact that (26) is simply a Present tense sentence, and not a Perfect at all. _Aussogestehen_ is a compound, but Non-Perfect infinitive. The best proof of this is the fact that it has the paradigm of a Present tense form; in particular, it forms a regular Flyperfect, _ausgesogen reklam_.

_Sie hat_, this can be used in sentences such as (27).

(27) Als ich ihn beim Abendessen traf, hatte er seine Jacke
    when I saw him at supper his jacket
    schon eine Stunde ausgesogen gehabt
    already a hour off-take(past)
    'When I saw him at supper he had his jacket off for an hour.'

This form is anomalous under the view that _ausgesogen_ haben is (exclusively) a Perfect form. Of course, it may, in other sentences, represent a genuine Perfect. (26) is deceptive for this very reason.

The construction in (26) is clearly the product of a lexical rule of limited productivity. Its lack of productivity can be demonstrated directly by attempting to substitute other verbs, e.g. gedacht haben 'to have seen', or verb-object combinations, e.g. mir das Geld pergeben haben 'to have given me the money' for _ausgesogen_ haben, i.e., seinen Jacke ausgesogen haben in (26). Most of these are (I) ungrammatical or (II) understood differently, viz. so that the action is understood to have lasted two hours. The construction is not limited to haben - participle, but is possible with other adjectives and predicatives, as (28) illustrates:

(28) Er hat es an
    on
    ausgesogen off
    notig necessary (i.e. he needs it)
    gen
    dear (i.e. he likes it)
    etc.

Since past participles may be used as adjectives in construction with sein 'to be', there is likewise a Present tense construction which has exactly the same form as those Perfects which take sein as auxiliary. An example of one of these is provided:

(29) Er ist seit zwei Stunden abgefahren
    he AUX since two hours away-drive(past)
    'He drove away and he's been away for two hours.'

The existence of these genuine Present tense forms which are homophones with Perfects may be a source for the reflexive intuition among speakers of German that there is something 'present or immediate' about the Perfect, at least in contrast to the Preterite. For example, Selhausen (1969:13) defines the Perfect as a 'continued command over a completed action.' ("ein nicht abgeschlossenes Verben über ein abgeschlossenes Tun") There is no reflection of this intuition in the rule of Perfect Interpretation (71) above, but it may be the sense of the homophones Present tense constructions which Selhausen and others