Non-at-issueness of since-clauses
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Goal – The goal of this paper is to investigate the complex, understudied, discourse status of English causal clauses introduced by since. I show that unlike because-clauses, since-clauses are not at-issue. More specifically, A since B is associated with two implications: (i) the causal relation between A and B and (ii) the B-clause. They correspond to two different types of projective contents, which are derived, I argue, in two different ways: (i) the causal relation is not at-issue because since-clauses modify evidential or speech act phrases; (ii) the B-clause is not at-issue because it is the complement of a silent factive verb know incorporated in the conjunction.

Not-at-issueness of since-clauses – As can be shown by the diagnostics presented in Tonhauser (2012), the two implications associated with since-clauses are not at-issue. First, neither the causal relation (in 1: the indication relation between the absence of Liz’s coat and her departure) nor the B-clause (in 1: that Liz’s coat is not on the rack) can be challenged (cf. Tonhauser’s 2012 diagnostics #1a-c): only A (that Liz has left) can be directly assented or dissented with.

(1) a. Liz has left, since her coat is not on the rack.     b. Yes, true / That’s not true.

By contrast, both B and the causal relation can be challenged in the case of because-clauses:

(2) a. Liz has left because she was tired.      b. Yes, true / That’s not true.

Second, the two implications associated with since-clauses cannot address the Question Under Discussion (cf. Tonhauser’s 2012 diagnostic #2), unlike those associated with because-clauses: (1a) is not acceptable as an answer to (3) or (4), while (2a) can answer (3) or marginally (5).

(3) Why has Liz left?       (4) Where is Liz’s coat?       (5) How was Liz doing?

Two types of projective content – Based on Simons et al.’s 2011 hypothesis, this predicts that B and the causal relation expressed by since project. (6) shows that the two implications indeed survive in the case of negation (a), questioning (b), modalization (c) and conditionalization (d).

(6) B-implication: Liz’s coat is not on the rack

since-implication: the absence of Liz’s coat indicates that Liz has left

a. It is not the case that Liz is here, since her coat is not on the rack.

b. Has Liz left, since her coat is not on the rack?

c. It’s possible that Liz has left, since her coat is not on the rack.

d. If Liz has left, since her coat is not on the rack, I will not be able to talk to her.

More precisely, these tests reveal that since- (vs. because-) clauses are not embeddable under these operators as confirmed by (7a) vs. (7b) for negation (cf. scopelessness of CI, Potts 2005).

(7) a. *Liz has not left since her coat is not on the rack, but since I cannot see her.

b. Liz has not left because she was tired, but because she was bored.

Moreover, these two implications fall into two different classes based on Tonhauser et al.’s 2013 taxonomy of projective content. In particular, the B-implication is not subject to the Strong Contextual Felicity Constraint (i.e. it can be new information), but the since-implication is: (8) is felicitous in a context where the addressee doesn’t know that the neighbors’ radio is presently on (but knows that they usually turn their radio on when they leave to turn away potential thieves); but (8) is not felicitous in a context where the addressee doesn’t know about the indication relation between the radio and the neighbors’ departure (even if she knows that the radio is on).

(8) The neighbors have left, since their radio is on.

Consequently, the since- (vs. because-) relation cannot be focused as shown by the unavailability of clefting in (9a) vs. (9b), but part of B can as illustrated in (10).

(9) a. *It is since her coat is not on the rack that Liz has left.

b. It is because she was tired that Liz has left.
(10) - I cannot see Liz’s purse, has she left?
- No, she hasn’t left, since her coat is still on the rack.

However, both B and the since-implication are subject to the Local Obligatory Effect: when embedded in attitude contexts (cf. Heim 1992), they must be under the scope of the attitude verb. Thus, (11) is not felicitous in contexts where Paul does not know that the neighbors’ radio is on (B-implication) or that they turn on their radio when they leave (since-implication).

(11) Paul thinks that since their radio is on, the neighbors have left.

Based on these two properties, the B-implication thus behaves like e.g. complements of factive verbs such as know (Tonhauser et al.’ 2013 class C), and the since-implication like e.g. the existence of alternatives in the case of too (class A) (cf. soft vs. hard presuppositional triggers).

**Analysis** - The since-implication is not at-issue, I hypothesize, because since-clauses modify evidential phrases, i.e. propositions (in 1a: it provides evidence for the truth of A), or speech act phrases (in 12: it gives a reason for the exhortation), which are never at-issue (cf. not-at-issueness of evidential markers [Faller 2002, Murray 2010, a.o.] or speech act adverbs like frankly). Given the very high position of evidential and speech act phrases (Cinque 1999, a.o.), this is supported by the fact that since-clauses (vs. because-clauses) have to scope above high elements like epistemic modals (cf. 6c), negation (6a-7a), quantifier subjects (13) or high adverbs (14).

(12) Let’s go for a drink, since you insist.
(13) [Each guest] has left {a. since his coat is not on the rack./b. because he was tired}.
(14) Liz has probably left {a. since her coat is not on the rack./b. because she was tired}.

As for the B-implication, I hypothesize that it is triggered by a silent factive verb incorporated in the conjunction since. First, we observe that in attitude contexts, B (vs. since-relation) is also subject to what could be called a Global Obligatory Effect (cf. factivity), i.e. the speaker has to be committed to B: (11) is infelicitous if it is in fact not the case that the neighbors’ radio is on. Second, perspectival effects in since-clauses show that B must be anchored to the closest attitude holder: the logophoric anaphor himself (cf. Pollard & Sag 1992, a.o.) in (15) can only refer to Paul, and the antilogophoric epithet the idiot (cf. Dubinsky & Hamilton 1998) is unacceptable when referring to Paul: neither Tim nor the speaker can be perspective centers of the since-clause.

(15) Tim believes that Paul thinks that since there is a picture of {a. himself/b. [the idiot]} missing, Liz must have left and taken things that do not belong to her.

This supports the hypothesis that since has an implicit attitude holder, which must be bound within its clause. Finally, since-clauses are subject to the same embedding constraint as epistemic modals (16, Anand & Hacquart 2013): they can only appear in complements of attitudes of acceptance like think (11, 17c), but not desideratives like want or directives like demand (17a-b).

(16) John {a. #wants/b. #demanded/c. believes } that Mary must have known her killer.
(17) Paul {a. #wants/b. #demanded/c. believes } that since their radio is on, the neighbors have left.

This further buttresses the hypothesis that since involves quantification over an information state. This is implemented in the lexical entry of since proposed in (18), where A must be an evidential phrase (proposition) or a speech act phrase: roughly, A since B means x utters/believes A because x knows that B, where x is fed by an implicit element bound by the local attitude holder (i.e. the speaker in matrix clauses, the closest attitude holder in embedded attitude clauses).

(18)[[since]]^w =λx.λB.λA.in all worlds w’ compatible with what x knows in w, B is a reason for A in w’

In sum, since-clauses are doubly and heterogeneously not at-issue: they involve two implications belonging to two different classes of projective content and coming from two different sources.
References

Potts, C., 2005: *The Logic of Conventional Implicatures*.