

World-relatives and their flavors
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Arguments have been provided that complement clauses (Arsenijević 2009a), conditional clauses (Arsenijević 2009b), as well as all other adverbial clauses (Arsenijević 2006) have an underlying structure of relative clauses: they are all derived by abstracting a constituent of the subordinate clause, thus turning it from a saturated expression into a one-place predicate, and all of them occur as restrictive or non-restrictive modifiers of a constituent in the matrix clause. Temporal clauses abstract over a temporal argument, spatial over a spatial, clauses of result/consequence over a degree, comparative clauses over a manner, property or degree. Four traditional classes of subordinate clauses end up with the same description: causal, conditional, purpose and concessive clauses on this approach all abstract away the set of worlds in which the subordinate clause is true, becoming thus a predicate over worlds, and modify the set of worlds in which the main clause is true.

- (1) a. John stays late because he has a deadline.
(roughly: *John stays late in the worlds in which he has a deadline, which include the actual world*)
b. John will stay late if he has a deadline.
(roughly: *John stays late in the worlds in which he has a deadline.*)
c. John stayed late in order to meet the deadline.
(roughly: *John stayed late in the actual world which desirably develops into a met-deadline-world.*)
d. But he stayed late last week too, even though he had no deadline.
(roughly: *He stayed late last week in the actual world which is a no-deadline world.*)

This paper argues that indeed these 4 classes make one macro-class, and that the different flavors captured by the traditional division result from the interaction of a number of factors, including crucially: the item(s) occurring with(in) the conjunction (if any), the mood on the conjunction, the mood on the verb, and the temporal ordering between the eventualities in the subordinate and the matrix clause. On this view, causal and purpose clauses are exhaustive conditionals, causal and concessive clauses are factive, and purpose clauses are futurate and typically order worlds along the scale of desirability.

There is a long tradition that relates concessive clauses both with causal (unfulfilled cause) and with conditional clauses (unfulfilled condition), as clauses which express that the consequence holds in spite of the failure of cause/condition (König and Siemund 2000). Note that sentence (1d) is a natural response to the causal clause in (1a), to the conditional in (1b) and even to the purpose clause in (1c).

The fact that one and the same clause is a minimal pair with three other clause types already supports the view that all 4 types are better classified as one, as no other traditional clause type enters similar relations with any of them. Relying on Serbo-Croatian (S -C) data, I provide 3 additional arguments.

1. In S-C, each two of these 4 clause types share at least one conjunction, usually with a minimal opposition in one of the 4 factors listed above. In (2a-b), a conditional and a concessive are both introduced by the conjunction *ako* 'if', with an additional polarity item for the concessive, in (2c-d) a causal and a purpose clause are introduced by *zato* 'for that' + complementizer (an indicative one for causal and a subjunctive one for purpose clauses), and in (2e-f) a causal and a conditional clause are introduced by *kad* 'when', with a subjunctive verb in the conditional. This suggests that each two of these 4 clause types share a common semantic core, with a relatively small difference.

- (2) a. Ako mu je eksperiment uspeo, Jovan će naručiti turu svima.
if him Aux experiment succeeded J will order round all
'If his experiment was successful, Jovan will order a round for everyone.'
b. I-ako mu eksperiment nije uspeo, Jovan će naručiti turu svima.
even-if him experiment Neg-Aux succeeded J will order round all
'Although his experiment wasn't successful, Jovan will order a round for everyone.'
c. Odustao je od treninga za-to što večera sa prijateljima.
gave_up Aux from training for-that CompIndic dines with friends
'He gave up the training because he's dining with his friends.'
d. Odustao je od treninga za-to da večera sa prijateljima.
gave_up Aux from training for-that CompSbjnc dines with friends
'He gave up the training in order to dine with his friends.'
e. Lako je pobediti, kad za vas navija sudija.
easy is win.Inf when for you.Pl cheers referee
'It is easy to win, considering that the referee favors you.'
f. Lako bi bilo pobediti, kad bi za vas navijao sudija.
easy AuxSbjnc been win.Inf when AuxSbjnc for you.Pl cheered referee
'It would be easy for you to win, if the referee would be favoring you.'

2. All and only these 4 clause types can be characterized in terms of having an event- and/or a premise-level interpretation (Declerck and Reed 2001): e.g. (2a) has both these readings, (2c) only the event-level, and (2e) is a causal clause on the premise-level interpretation and a conditional on the event-level reading. This property straightforwardly derives from their nature of world-relatives.

3. Each of these 4 classes includes border-cases with one of the other three. The condition in (2a) can also be the cause, and the cause in (2e) can be seen as a premise-level condition (consider additionally that this sentence also has a purely conditional event-level interpretation), just like (3a). Similarly, the subordinate clause in (3b), even though introduced by *because*, has a reading on which it does not express a cause, but rather a fulfilled necessary condition. Conditional clauses like (3c) often express a reason, a meaning typical for causal clauses (in fact, a view can be defended that causal clauses only express reasons, never narrow causes). Finally, purpose clauses are futurate reasons: (3d) has a paraphrase where he opened the window because he finds the worlds in which the fly goes out desirable.

- (3) a. Naravno da smo danas otišli na izlet, kad je vreme bilo lepo. S-C
naturally CompSbjnc Aux1Pl today gone on picnic when Aux weather been nice
'Of course we went on a picnic, as/considering that the weather was nice.'
b. You entered just because someone left the door open.
c. If the lights are out, it's clear that Bill's sleeping.
d. He opened the window for the fly to go out.

Moreover, each of these classes has a number of sub-types, many of which are again border-cases between two classes (consider real, unreal, potential conditionals, *since-* and *because-* causal clauses, *although* and *even if* concessives).

I argue that these 4 clause types are well modelled as conditionals with a potential additional semantic specification. I discuss 4 factors which most directly contribute to this specification:

I Each of these clauses is introduced by a complementizer or a relative pronoun which is potentially joined by one or two additional items, such as the preposition *za* 'for' in *zato što* 'because', lit. 'for that which' and *zato da* 'in order to', lit. 'for that that', *u* 'in' in *ukoliko* 'if', lit. 'in how much', or the polarity item *i* 'even' in *iako* 'although', lit. 'even if'. I examine the compositional contribution of these items.

II S-C complementizers are marked for mood: *da* is subjunctive and *što* is indicative (Topolinska 1995). Considering that narrow conditionals and purpose clauses bear typical subjunctive semantics and causal clauses are strongly indicative, it is clear that this component plays a central role for the surface meaning. Minimal pairs regarding this property (such as (2c-d)) and its semantic contribution are examined.

III Purpose clauses and potential conditionals in S-C must involve verb forms with Abusch's (1985) WOLL operator, while unreal conditionals are incompatible with them. At the same time, potential and unreal conditionals select matrix clauses whose predicates bear the WOLL operator. Minimal pairs along this dimension (such as (2e-f)) and the semantics of the four possible combinations of a matrix and a subordinate clause: \emptyset - \emptyset , \emptyset -WOLL, WOLL- \emptyset and WOLL-WOLL are discussed in more detail.

IIII A related property is the temporal ordering between the epistemic evaluation times of the matrix and the subordinate clause: causal, conditional and concessive clauses are evaluated simultaneously with or before while purpose clauses are evaluated simultaneously with or after the matrix clause.

These four factors interact with each other: only the subjunctive complementizer is sensitive to the WOLL operator and clauses involving a WOLL operator must be epistemically evaluated after those without one, which narrows down the set of possible combinations. However, a number of additional factors, such as information structure, the construal or the height of attachment additionally expand it. Pragmatics, more precisely the frequency of contexts in which any particular combination is used, determines which of them will grammaticalize, which will be compositionally derived, and which combinations will be unattested or even ill-formed. I show how these factors result in different types of world-relatives, which are intuitively recognized as conditional, causal, concessive and purpose clauses.

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Creolization and Referentiality. In Prague Linguistic Circle Papers, Eva Hajičova, M. Červenka, O. Leška and Peter Sgall (eds.). Amsterdam: John Benjamins, 239-247.