From times to worlds: the relational unity of perfects and evidentials

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Section 1

Introduction

In many languages, **perfect morphosyntax** can be used to express
evidential meanings:

(1) a. Gel -miş -im. *(Turkish)*
       come PERF 1SG
    b. Az sâm   došâl.   *(Bulgarian)*
       I   BE.PRES.1SG come.PAST.PTCP
    c. Jeg har   kommet.   *(Norwegian)*
       I   HAVE.PRES.1SG come.PAST.PTCP
       "I have come." / "I apparently came"

[Izvorski, 1997]

▶ This use of the perfect is typologically well established Comrie (1976); Bybee et al. (1994); Aikhenvald (2004, a.o.)...

...but has received less attention in the theoretical literature, with the exception of Izvorski (1997) and Speas (2010).

Questions:

- ▶ What makes perfect evidentials possible?

  - ▶ A common semantics for perfects and evidentials.

- ▶ What do perfect evidentials tell us about the perfect?

  - ▶ Help to narrow the field of possible semantic analyses.

- ▶ What do perfect evidentials tell us about modal repurposing more generally?

  - ▶ Broadened empirical domain, connections between syntax and semantics.

Outline of the talk:

- ▶ Background: evidentiality and perfect evidentials

- ▶ Logic of Repurposing: causes and consequences

- ▶ Analysis: one relation, different argument types

- ▶ Implications and Conclusions

Section 2

Background: Evidentiality and Perfect Evidentials

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A brief primer on evidentiality

- ▶ Evidential morphology, in languages that exhibit it, generally described as expressing the **source of evidence** or **degree of certainty** that a speaker has for an assertion.

- ▶ For our purposes today, sufficient to consider simple 2-way contrasts between **direct** and **indirect** evidential marking:

  Direct: speaker witnessed/directly experienced the event.

  Indirect: speaker did not witness the event, but still has evidence for it (witnessed its consequences, received a reliable report, etc.)

Of interest today: **perfect evidentials (PEs).**

▶ Cases where perfect morphosyntax is used to express evidential meanings.

▶ PEs are widely attested across unrelated languages, e.g.:

Turkic: Turkish, Azeri; *Uralic:* Nenets, Finnish, Estonian, Mari, Komi, Udmurt, Mansi; *Indo-European:* Latvian, Bulgarian, Albanian, Persian, Tajik, Ishkashim; *Kartvelian:* Georgian; *Caucasian:* Agul; *Sino-Tibetan:* Newari

[Comrie 1976:110; Dahl 1985:130; Aikhenvald 2004:112-6]

▶ PEs consistently express **indirect** evidential meanings.

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Perfects express indirect evidential meanings

Bulgarian

- ▸ Perfect = Aux BE + Past Participle

(2)   A: Maria celunala   Ivan.
            Maria kiss.PAST.PTCP Ivan.
            "Maria apparently kissed Ivan."

       A': # (Actually) I witnessed it/know that for a fact.

                                        [*Izvorski, 1997:228*]

(2) is unambiguously evidential because it lacks an overt copular auxiliary,
something possible with 3SG subjects in PEs but not in the perfect.

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Perfects express indirect evidential meanings

North Azeri

- ▶ Perfect = suffix -*miʃ* (cognate to Turkish perfect/evidential)

(3) onlar halvanɨ   je-jir-miʃ-lär
     3PL halva.ACC eat-IMPF-PERF-PL
     Perfect: "They have been eating the halva."

     Evidential: "Evidently they are eating the halva."

     (Speaker scenario: moment of realization when you put together the missing plate and the sounds of eating from your roommate's room.)

(All Azeri data reported in this paper is drawn from the field notes of Claire Halpert and Colin Davis. Thanks to Samir Karimov, their Azeri language consultant.)

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Perfects express indirect evidential meanings

Palestinian Arabic

▶ Perfect = Present Active Participle (CaaCeC)

(4) sami raakeð
     sami run.PRES.PTCP
     Perfect: "Sami has run/been running."
     Evidential: "Apparently, Sami ran."
     (As one can see his shoes, he's sweating, etc.)

(This is identified as a resultative perfect in Boneh (2010), specifically for Syrian Arabic, though it also occurs in Palestinian Arabic. All judgements pertaining to its evidential interpretations are due to Hadil Karawani.)

Section 3

The Logic of Modal Repurposing

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Repurposing: Extension, not Reanalysis

Question 1: **What makes PEs possible?**

A plausible first step: Pragmatic extension.

▶ Perfects involve a state that resulted from a prior event.

▶ Speakers come to use the perfect when the result state gives **evidence** for a prior event.

But how is this **semanticized**?

▶ Can't be a radical reanalysis

$\rightarrow$ PEs exist alongside temporal perfects.

▶ Alternative: a minimal change to the original temporal meaning of perfects allows them to extend to evidential cases.

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Repurposing: Extension, not Reanalysis

Comparison: repurposing of **past** in **counterfactuals**.

(5)   If it **was** summer (now), the days **would** be longer.

- ▶ Analyzed as resulting from a **common semantics**, in one of two ways:

  - ▶ Temporal past is involved in counterfactuals
                                    (e.g. Arregui, 2009; Ippolito, 2006, 2013)

  - ▶ Past and counterfactuals involve a **single relation** of remoteness or non-coincidence.

    Differences arise from different arguments: times vs. worlds. (e.g. Iatridou, 2000; Ritter and Wiltschko, 2014; Karawani, 2014; Schulz, 2014)

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What is the source for repurposing?

Repurposing in PEs, as in CFs, is based on a **common relation**.

But what relation do they share?

▶ Before we can answer this, we need to know what it is that gets repurposed in PEs.

▶ Izvorski (1997) and Speas (2010): it is specifically the **present** perfect that is repurposed.

▶ We argue that there are both empirical and conceptual reasons to think it is the perfect alone, without tense, that occurs in PEs.

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What is the source for repurposing?

Why think that PEs involve present perfect?

▶ Izvorski (1997): evidentiality unavailable under past/future/non-finite morphology.

E.g. in **Turkish**:

(6) a.   Gel -miş -tim
          come -PERF -PAST.1SG
          "I had come." (*Not:* "I apparently came/had come.")
     b.   Gel -miş ol -acak -im
          come -PERF BE -FUT -1SG
          "I will have come." (*Not:* "I will apparently come.")

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What is the source for repurposing?

Why think that PEs involve perfect simpliciter?

Reason 1

- ▶ In North Azeri PE interpretations are in fact possible with past morphology.

(7)   mən dünən çox yat-ır   gal -ı   **-mış** **-d**
       1SG yesterday much sleep-IMPV stay -IMPV -PERF -PAST
       -ım
       -AGR.1SG
       '(Apparently) I had been falling asleep a lot yesterday.'
                                                    [North Azeri]

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What is the source for repurposing?

Why think that PEs involve perfect simpliciter?

Reason 2:

- ▶ If PEs are epistemic modals (Izvorski, 1997; Matthewson et al., 2007, a.o.), we have independent reason to expect them not to be able to scope under past tense (Cinque, 1999; Stowell, 2004; Condoravdi, 2002, a.o.).

- ▶ This gives us a different explanation for the incompatibility of PEs with tense: the perfect in PEs occurs in a **structurally different position**, one that is generally above tense.

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Stacking: PEs are higher than perfects

Independent evidence from **stacking** that PEs are high.

▶ In many languages it is possible for the PE to be stacked on top of the ordinary temporal perfect.

▶ Resulting sentences are always unambiguously evidential.

Bulgarian:

(8)   Az **sâm bil** čel   Anna Karenina
        I   am   been read Anna Karenina
        "I apparently have read Anna Karenina."

[*Izvorski, 1997:238*]

(Also, recall absence of auxiliary in 3SG PEs: explained if there is simply no tense feature in need of realization.)

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Stacking: PEs are higher than perfects

North Azeri:

(9)   onlar halvnɨ   je-**jib-miʃ**-lär
        3PL   halva.ACC eat-PERF-PERF-PL
        "They have (evidently) eaten the halva."

(10)   män jat-ɨb   gal-**ɨb-mɨʃ**-am
        1SG sleep-(j)Ib stay-PERF-PERF-1SG
        "Apparently I have been asleep"

▶ When stacked lower perfect is always allomorph *-(j)Ib*.

(Azeri PEs strongly prefer stacking above some aspect in general.)

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Stacking: PEs are higher than perfects

Palestinian Arabic:

(11) Sami **kaayen** faateħ ish-shibbak
      Sami be.PRES.PTCP open.PRES.PTCP the-window
      "(Evidently) Sami had the window open."

(12) **kaayen** naajeħ bi-l-imtiħaan
      be.PRES.PTCP succeed.PRES.PTCP in-the-exam
      "(Evidently/I heard) he had passed the exam."

Stacking: PEs are higher than perfects

- ▶ Stacking options suggest that perfect evidential is **higher** than the ordinary temporal perfect.

- ▶ This is in line with its interpretation: cf. proposals that epistemic modals generally compose high.

  Conclusion: What is repurposed in PEs is not the present perfect, just the perfect.

- ▶ From a compositional perspective, this **makes sense** → we expect semantic change to target syntactic/semantic units, i.e. heads (or perhaps features), not "constructions"

  The present perfect is not a unit in the relevant sense.

Section 4

One Relation, Two Argument Types

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Starting from evidentiality

Question 2: **What do PEs tell us about the perfect?**

▶ Having identified the perfect alone as the locus of repurposing to evidentials, we can now ask what relation they share.

▶ Much debate about the semantics of the perfect

(Espectially Perfect Time Span vs. Resultative)

▶ PEs provide an independent source of evidence in deciding among semantic analyses of the perfect.

While there is also debate regarding the semantic analysis of evidentials, nonetheless a narrower field.

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Starting from evidentiality

What is the relation expressed in evidentials?

▶ Izvorski (1997), and much subsequent work: evidentials can be analyzed as **epistemic** (necessity) **modals**.

Evidential(P):

▶ *Assertion:* In all epistemically accessible worlds, P is true.

▶ *Presupposition:* The speaker has indirect evidence for P.

▶ Advantage of unifying evidentials with well understood domain of modality, and widely adopted in current semantic work.

▶ But though this modal analysis proposed specifically for PEs, unclear how to map the parts of this meaning onto any semantics of the perfect.

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Starting from evidentiality

Reframing the modal analysis of evidentials:

- ▶ Matthewson et al. (2007): an extension of Izvorski (1997).

- ▶ **Core idea:** Evidentials involve a **mediated** relation between sets of worlds.

  - ▶ Kratzer (1981, 1991): Modals involve a quantificational relation between **two** sets of worlds: the accessible worlds **B(w)** and the worlds in which a proposition **P** is true.

  - ▶ Matthewson et al: Evidentials (at least in St'àt'imcets) involve a **third** set of worlds, a contextually-determined **subset** of B(w). → e.g. worlds compatible with evidence.

$$[\![MODAL]\!]^{c,w} = \lambda f_{<st,st>}.\lambda p_{<st>} \forall w'[w' \in \mathbf{f}(\mathbf{B(w)}) \rightarrow p(w')]$$

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Towards a common relation

Does this match any relation proposed for the perfect?

Two prominent options:

- ▶ Resultative analysis (e.g. Kamp et al., 2013)

  - ▶ Perfects are stativizers.

  - ▶ Take an event description and return the result state of that event.

- ▶ Perfect Time Span (Iatridou et al., 2003)

  - ▶ Perfects are temporal operators.

  - ▶ Tense/aspect generally involves a relation among **three** intervals: ET, RT, and UT

  - ▶ Perfects introduce a **fourth** interval, the PTS.

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Towards a common relation

- ► Perfect:

  - ► Takes a predicate of times, and yields a predicate of times.

  - ► Introduces a new time span: Perfect Time Span

  - ► Perfect Time Span $\leq$ Reference Time

- ► Evidentials:

  - ► Compose with a set of worlds, and yield a set of worlds.

  - ► Introduce a new set of worlds: Evidence(w)

  - ► Evidence (w) $\subseteq$ P(w)

    (i.e. P is true in all the Evidence worlds)

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Towards a common relation

Different syntax:

Composition of the Perfect: Composition of Evidential:
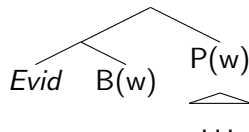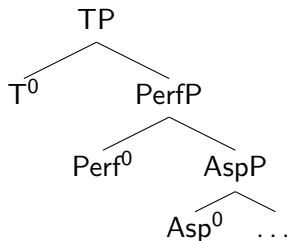
But the same relation involved, thus the same morphology.

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Towards a common relation

- ▶ More needs to be said about the semantics of PEs:

  - ▶ Much rests on a parallel between $\leq$ and $\subseteq$

  - ▶ Nothing to say about the specific requirement for indirect evidence

  - ▶ Issue of what part of the modal head is realized by PEs

- ▶ But advantages:

  - ▶ Clear parallels to pursue between PEs and perfects

  - ▶ To the extent that it is successful, provides indirect support for a particular analysis of the perfect, the PTS approach

Section 5

Implications and Conclusions

Question 3: **What do PEs tell us about modal repurposing more generally?**

▶ Repurposing reflects a shared relation, but a shift in **types** from times to worlds.

(similarly: Bjorkman and Cowper 2015 on possession→necessity)

▶ Shift in type corresponds with a shift in syntactic position → evidence from stacking.

▶ Still a role for diachronic **change**: temporal operators do not automatically relate modal argument types.

Thank you!

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