In the mood for intention

Thomas Grano

Indiana University

Agency and Intentions in Language 2
Harvey Mudd College (virtual)
12 January 2022

The question

- ▶ **A central question for linguistic theory:** How does the form (syntax) of a complex expression relate to its meaning (semantics)?
- ▶ **This talk:** How does the syntax of an intention report help inform our understanding of its semantics?
- ▶ **More specifically:** Why does *intend* pattern like *want* and unlike *hope* in rejecting finite indicative complements?

  (1)   I **intend**/**want**/**hope** [**to go** to the park].

  (2)   I **intend**/**want**/**hope** [**for** John **to go** to the park].

  (3)   I ***intend**/***want**/**hope** [**that** John **goes** to the park].

  (* = judged unacceptable)

Roadmap

- ▶ Background on *want* and *hope*
- ▶ New cross-linguistic data on *intend*
- ▶ Previous literature
- ▶ Core proposal
- ▶ Beyond *intend*: Independent support
- ▶ Conclusions

Background on mood choice

▶ **Mood choice:** What factors influence the relative distribution of *indicative* and *subjunctive* clauses cross-linguistically?

▶ For example, why does French *croire* 'believe' go with indicative and *vouloir* 'want' with subjunctive?

  (4)   Jean **croit** que Marie **est** ici.
         'Jean believes that Marie **is** (IND) here.'

  (5)   Jean **veut** que Marie **soit** ici.
         'Jean wants that Marie **be** (SBJV) here.'

▶ Portner and Rubinstein's (2012) PROTO-STANDARD ANALYSIS: A predicate selects the subjunctive iff it has a comparative semantics.

▶ Insofar as 'want' involves comparison (Heim 1992 et seq.) whereas 'believe' does not, the facts in (4)–(5) are captured.

Background, cont'd.

- ▶ A well-known problem for the proto-standard analysis: 'hope'

  (6)   Jean **espère** que Marie **est** ici.
         'Jean hopes that Marie **is** (IND) here.'

- ▶ 'Want' and 'hope' both involve comparison, yet 'hope'
  unexpectedly allows indicative complements!
- ▶ And it's not just French:

	Catalan	French	Italian	Portuguese	Romanian	Spanish
'want'	SBJV	SBJV	SBJV	SBJV	SBJV	SBJV
'hope'	SBJV	IND/%SBJV	%IND/SBJV	IND/SBJV	IND/SBJV	SBJV

Table 1: Mood selection in Romance (Data source: Portner and Rubinstein 2020)

% = inter-speaker variation in acceptability

- ▶ Across Romance, 'want' is a stable subjunctive selector
  whereas 'hope' shows both language-internal and
  cross-language variation in mood selection.

Background, cont'd.

- ▶ This asymmetry between 'want' and 'hope' has led to increasingly sophisticated theories of mood choice, sensitive to increasingly fine-grained semantic properties of preference predicates like 'want' and 'hope'.

- ▶ See especially Silk 2018; Portner and Rubinstein 2020; Giannakidou and Mari 2021.

- ▶ **My project:** How does 'intend' fit in? How does it behave w.r.t. mood selection? And how might the semantics of 'intend' inform—and be informed by—theories of mood choice?

English

'Intend', 'want', and 'hope' all accept nonfinite complements (*to* and *for-to*), but only 'hope' accepts indicative complements:

(7)   I **intend**/**want**/**hope** [**to go** to the park].

(8)   I **intend**/**want**/**hope** [**for** John **to go** to the park].

(9)   I ***intend**/***want**/**hope** [**that** John **goes** to the park].

This is not an accident of English! 'Want' and 'intend' pattern together to the exclusion of 'hope', in language after language.

Greek

Greek 'intend', 'want', and 'hope' all accept subjunctive (*na*) complements, but only 'hope' accepts indicative (*oti*) complements (Giannakidou and Mari, 2021):

(10) a. I Ariadne **protithete na** fiji noris.
          the Ariadne intends   SBJV leave early
          'Ariadne intends to leave early.'
      b. *I Ariadne **protithete oti** tha fiji noris.
          the Ariadna intends   IND FUT leave early

(11) a. I Ariadne **theli na** fiji noris.
          the Ariadne wants SBJV leave early
          'Ariadne wants to leave early.'
      b. *I Ariadne **theli oti** tha fiji noris.
          the Ariadna wants IND FUT leave early

(12) a. I Ariadne **elpizi na** fiji noris.
          the Ariadne hopes SBJV leave early
          'Ariadne hopes to leave early.'
      b. I Ariadne **elpizi oti** tha fiji noris.
          the Ariadna hopes IND FUT leave early
          'Ariadne hopes that she will leave early.'

(Similar facts hold in Romanian.)

Spanish

Spanish *(tener la) intención (de)* '(have the) intention (of)' accepts nonfinite and subjunctive but not indicative complements:

(13)   Tengo   la   intención de **ir** al   parque hoy.
        have.1SG the intention of go to the park   today
        'I intend to go to the park today.'

(14)   Tengo   la   intención de que Juan **vaya**   al   parque
        have.1SG the intention of that Juan go.SBJV to the park
        hoy.
        today
        'I intend for Juan to go to the park today.'

(15)   *Tengo   la   intención de que Juan {**va**/**irá**}
        have.1SG the intention of that Juan go.PRES.IND/go.FUT.IND
        al   parque hoy.
        to the park   today

(Similar facts hold in Catalan and Portuguese.)

French

French *avoir l'intention* accepts nonfinite complements but rejects both subjunctive and indicative complements:

(16)   J'ai   l'intention   d [**aller** au   parc aujourd'hui].
        I.have the.intention of go   to the park today
        'I intend to go to the park today.'

(17)   *J'ai   l'intention   [que Jean **aille**   au   parc
        I.have the.intention that Jean go.SBJV to the park
        aujourd'hui].
        today

(18)   *J'ai   l'intention   [que Jean **va**/**ira**
        I.have the.intention that Jean go.IND/go.FUT.IND
        au   parc aujourd'hui].
        to the park today

(Similar facts hold in Italian.)

Summary

	'intend'	'want'	'hope'
English	NONFIN	NONFIN	NONFIN/IND
Greek	SBJV	SBJV	IND/SBJV
Romanian	SBJV	SBJV	IND/SBJV
Spanish	NONFIN/SBJV	NONFIN/SBJV	NONFIN/SBJV
Catalan	NONFIN/SBJV	NONFIN/SBJV	NONFIN/SBJV
Portuguese	NONFIN/SBJV	NONFIN/SBJV	NONFIN/SBJV/IND
French	NONFIN	NONFIN/SBJV	NONFIN/IND/%SBJV
Italian	NONFIN	NONFIN/SBJV	NONFIN/%IND/SBJV

Table 3: Mood selection in Romance preference predicates[1]

Generalization: 'Intend'—like 'want' but unlike 'hope'—**never** accepts indicative complements.

---

[1]See Appendix for Romanian, Catalan, Portuguese, and Italian 'intend' data.

Previous approaches to mood choice

▶ **Generalization:** 'Intend' — like 'want' but unlike 'hope' — **never** accepts indicative complements.

▶ **Question:** Are any previous approaches to mood choice successful in capturing the above generalization?

▶ **Answer:** No!

    ▶ On the next slide, we'll consider Portner and Rubinstein 2020.

    ▶ See appendix for Silk 2018; Giannakidou and Mari 2021.

Portner and Rubinstein 2020 (PR20)

▶ Why does French *vouloir* 'want' require subjunctive mood whereas *espérer* 'hope' accepts indicative mood?

▶ **PR20:** Sometimes, desire predicates that obey certain belief-like rationality constraints (like 'hope') enable indicative:

(19)   a.   I **want**/#**hope** to be immortal.   REALISM
       b.   I **want**/#**hope** to marry Al and I **want**/#**hope** to marry Bo.   CONSISTENCY

▶ **Problem:** 'intend' behaves like 'hope' and unlike 'want' in this respect (Condoravdi and Lauer 2016; Grano 2017):

(20)   a.   #I **intend** to be immortal.
       b.   #I **intend** to marry Al and I **intend** to marry Bo.

▶ PR20 thus wrongly predict 'intend' to pattern like 'hope' and unlike 'want' in mood choice.

The logic of the core proposal, in a nutshell

▶ *Premise 1:* Intention reports encode causally self-referential content.

▶ *Premise 2:* Encoding causally self-referential content requires abstraction over the complement clause's event argument.

▶ *Premise 3:* Subjunctive and nonfinite clauses enable event abstraction but indicative clauses do not.

▶ *Conclusion:* Intention reports accept subjunctive and nonfinite complements but reject indicative complements.

Intention reports and causal self-reference

▶ The content of an attitude is its **satisfaction conditions** (Searle, 1983).

▶ Unlike beliefs and desires, intentions have causally self-referential satisfaction conditions (Harman, 1976; Searle, 1983; Ludwig, 2016):

(21)   Jones$_1$ **believes** [she$_1$'ll lose the election].
       $\rightarrow$ Belief is satisfied (true) iff Jones loses the election.

(22)   Jones$_1$ **wants** [PRO$_1$ to lose the election].
       $\rightarrow$ Desire is satisifed (fulfilled) iff Jones loses the election.

(23)   Jones$_1$ **intends** [PRO$_1$ to lose the election].
       $\rightarrow$ Intention is satisifed (carried out) iff Jones's intention leads, by way of a plan she has, to losing the election.

▶ If Jones loses the election, but not as a result of her intention, then her intention has *not* been carried out.

How to break the causal chain: Case study 1

CONTEXT: One morning, I decide that it would be relaxing to get out in nature, so I form the intention to go on a hike later in the day. But soon I forget all about my intention to go on a hike, and I sit down on the couch to spend the rest of the day watching TV. Shortly thereafter, a friend visits and coaxes me out of the house under the pretext of going for a drive. One thing leads to another, and, soon enough, we're parked somewhere and setting off on a trail. I go on a hike.

ASSESSMENT: I intended to go on a hike, and I did go on a hike. But did I satisfy (carry out) my earlier intention to go on a hike? No! Because that intention played no causal role in the eventual hike.

How to break the causal chain: Case study 2

CONTEXT: Betty aims her gun at someone with the intention of shooting and killing them. Her intention "makes her nervous and nervousness causes her to pull the trigger" (Harman 1976: 445); the gun fires and the target is killed.

ASSESSMENT: Betty intended to kill the person. And she did kill them. But did she satisfy (carry out) her intention to do so? No! Because although the intention did play a causal role in the killing, it did not do so "in the right way."

Harman's conclusion: "a positive intention to do something is the intention that that very intention will lead in a more or less explicitly specified way to one's doing the thing in question" (p. 445)

The logic of the core proposal, in a nutshell

▶ *Premise 1:* Intention reports encode causally self-referential content. ✓

▶ *Premise 2:* Encoding causally self-referential content requires abstraction over the complement clause's event argument.

▶ *Premise 3:* Subjunctive and nonfinite clauses enable event abstraction but indicative clauses do not.

▶ *Conclusion:* Intention reports accept subjunctive and nonfinite complements but reject indicative complements.

Encoding causal self-reference

A semantics for intention reports, encoding causal self-reference:

(24) 〚Jones intends to lose〛^{w} =
      ∃s INTENTION(s,w) & HOLDER(j,s,w) & ∀w′ ∈
      CONTENT(s): ∃e CAUSE(s,e,w′) & LOSE(e,w′) &
      AGENT(j,e,w′)
      where CAUSE(s,e,w′) = s causes e in w′, by a way of a
      plan that ιx[HOLDER(x,s,w)] has
      ≈ *'There is some intention s held by Jones, and all worlds
      compatible with the content of s are worlds there is some
      event e, s causes e by way of a plan that Jones has, and e
      is an event of Jones losing.'*

Causal self-reference and event abstraction

How to carry out (25) compositionally?

(25) ⟦Jones intends to lose⟧^{w} =
$\exists$s INTENTION(s,w) & HOLDER(j,s,w) & $\forall w' \in$
CONTENT(s): $\exists$e CAUSE(s,e,w') & LOSE(e,w') &
AGENT(j,e,w')

Because CAUSE (like causatives in general: Higginbotham 1983;
Thomason 2014) is a relation to an *event*, the complement clause
must instantiate **event abstraction**:

(26) ⟦to lose⟧^{w,t} = λe.λx.$\lambda w'$.LOSE(e,w') & AGENT(x,e,w')

(27) ⟦intend⟧^{w,t} = λP.λx.λs.INTENTION(s) & HOLDER(x,s,w)
& $\forall w' \in$ CONTENT(s): $\exists$e CAUSE(s,e,w'): P(e)(x)(w')

The logic of the core proposal, in a nutshell

▶ *Premise 1:* Intention reports encode causally self-referential content. ✓

▶ *Premise 2:* Encoding causally self-referential content requires abstraction over the complement clause's event argument. ✓

▶ *Premise 3:* Subjunctive and nonfinite clauses enable event abstraction but indicative clauses do not.

▶ *Conclusion:* Intention reports accept subjunctive and nonfinite complements but reject indicative complements.

Event abstraction and mood choice

- ▶ Mood choice is known to interact with argument abstraction:
- ▶ Control infinitives induce subject argument abstraction (Chierchia, 1989):

(28) a. Jo claims to be a genius.   ← **obligatory** *de se*
      b. Jo claims that he is a genius.

- ▶ Nonfinite and subjunctive clauses induce time argument abstraction (Portner, 2017, 2018):

(29) a. Kim believed Jo to be a genius. ← **obligatory** 'SOT'
      b. Kim believed that Jo was a genius.

- ▶ **Proposal:** Subjunctive and nonfinite clauses enable event abstraction but indicative clauses do not (cf. Portner 2018: 117). (Event abstraction as a *sufficient* but *not necessary* condition for subjunctive/nonfinite mood.)

The logic of the core proposal, in a nutshell

- ▶ *Premise 1:* Intention reports encode causally self-referential content. ✓
- ▶ *Premise 2:* Encoding causally self-referential content requires abstraction over the complement clause's event argument. ✓
- ▶ *Premise 3:* Subjunctive and nonfinite clauses enable event abstraction but indicative clauses do not. ✓
- ▶ *Conclusion:* **Intention reports accept subjunctive and nonfinite complements but reject indicative complements.**

Independent support

Independent support for the proposal that only subjunctive and
nonfinite clauses enable event abstraction comes from the syntax
of. . .

▶ **Anankastic conditional antecedents**

▶ **Perception and memory reports**

▶ Other predicates that encode intention like 'aim', 'attempt',
'strive', 'try', etc.

▶ Belief-/intention-hybrid predicates like 'persuade' and 'decide'

▶ Causative and aspectual predicates

Here we'll consider the first two items only; see Appendix for the
rest.

Anankastic conditionals

Plan, *hope*, and *expect* allow both nonfinite and indicative complements, with little detectable difference in meaning:

(30)   I **plan/hope/expect** {to get a job/that I'll get a job}.

But in an anankastic conditional, only nonfinite is felicitous:

(31)   If you **plan/hope/expect** to get a job, you have to send out applications.

(32) ??If you **plan/hope/expect** that you'll get a job, you have to send out applications.

- ▶ **Sæbø's (2001) generalization:** Anankastic conditional antecedents require an expression of **intention**.
- ▶ This generalization, coupled with (31)-(32), further reinforces the link between **intention** and **nonfiniteness**.

Beyond intention: Perception and memory reports

Higginbotham 1983, 2003: *See* and *remember* relate to an *event* when they take bare-infinitival or gerundive complements but to a *proposition* when they take finite indicative complements:

(33) a.   Kim **saw** [Sandy open the door].   *event*
      b.   Kim **saw** [that Sandy opened the door].   *proposition*

(34) a.   Kim **remembered** [being in an accident].   *event*
      b.   Kim **remembered** [that she was in an accident]. *prop*

Encoding perception or memory of an *event* requires an open event argument:

(35)   see/remember $[\lambda e....]$

So the lack of eventive readings for (33-b)/(34-b) reinforces the conclusion that indicative clauses are incompatible with event abstraction.

Beyond intention: Perception and memory reports

Similar facts hold for Greek:

(36)   O   Nicholas **idhe** ton Flavio **na**   kleini tin porta.
       the Nicholas saw the Flavio SBJV close the door
       'Nicholas saw Flavio closing the door.' (GM21: 227)

(37)   O   Nicholas **idhe oti**   o   Flavio eklise ton porta.
       the Nicholas saw that.IND the Flavio closed the door
       'Nicholas saw that Flavio closed the door.' (GM21: 227)

(38)   O   Nicholas **thimate**   **na**   kleini ti   porta.
       the Nicholas remembered SBJV close the door
       'Nicholas remembered closing the door.' (GM21: 48)

(39)   O   Nicholas **thimate**   **oti**   ekleise tin porta.
       the Nicholas remembered that.IND closed the door
       'N. remembered that he closed the door.' (GM21: 48)

Summary

- ▶ Cross-linguistically, 'intend' accepts nonfinite and subjunctive complements but rejects indicative complements.
- ▶ This fact poses a challenge to recent theories of mood choice.
- ▶ Proposal: Intention reports have causally self-referential content whose encoding requires event abstraction, which nonfinite and subjunctive clauses can provide but indicative clauses cannot.
- ▶ Independent support for the proposal comes from a variety of other phenomena, including anankastic conditional antecedents and perception and memory reports.

Implications

▶ *For the semantics of intention reports:* There is grammatical
  evidence (in mood choice patterns) for the view from
  philosophy that intentions have causally self-referential
  satisfaction conditions.

▶ *For mood choice:* A comprehensive theory of mood choice
  must be sensitive to the presence vs. absence of event
  abstraction.

▶ Since event abstraction is a *sufficient* but not *necessary*
  condition for subjunctive/nonfinite clauses, the account leaves
  room for other factors to influence mood choice, perhaps
  ultimately dovetailing with the sorts of accounts proposed by
  Portner and Rubinstein 2020 and others to explain *want* vs.
  hope.

Acknowledgments

- ▶ Thanks to my language consultants Charlène Gilbert and Barbara Vance (French), Juan Escalona Torres and Karlos Arregi (Spanish), Jairo Nunes (Portuguese), Alex Cherici (Italian), Elena Castroviejo (Catalan), and Mihaela Moreno (Romanian).

- ▶ Thanks also to audiences at The Indiana University Linguistics Syntax-Semantics Reading group and Semantics and Linguistic Theory 31 for comments on earlier versions of this presentation.

- ▶ And thank you!

References

Anand, P. and Hacquard, V. (2013). Epistemics and attitudes. *Semantics & Pragmatics*, 6:1–59.

Chierchia, G. (1989). Anaphora and attitudes *de se*. In Bartsch, R., van Benthem, J., and van Emde Boas, P., editors, *Semantics and contextual expression*, pages 1–32. Foris, Dordrecht.

Condoravdi, C. and Lauer, S. (2016). Anankastic conditionals are just conditionals. *Semantics & Pragmatics*, 9:1–61.

Dowty, D. (1985). On recent analyses of the semantics of control. *Linguistics and Philosophy*, 8:291–331.

Giannakidou, A. and Mari, A. (2021). *Truth and Veridicality in Grammar and Thought: Mood, Modality and Propositional Attitudes*. University of Chicago Press, Chicago.

Grano, T. (2017). The logic of intention reports. *Journal of Semantics.*, 34:587–632.

Grano, T. (2019). Belief, intention, and the grammar of persuasion. In Ronai, E., Stigliano, L., and Sun, Y., editors, *Proceedings of the 54th annual meeting of the Chicago Linguistic Society*, pages 125–136. Chicago Linguistic Society, Chicago.

Hacquard, V. (2006). Aspects of modality. Ph.D. Dissertation, Massachusetts Institute of Technology.

Harman, G. (1976). Practical reasoning. *The Review of Metaphysics*, 29:431–463.

References (cont.)

Heim, I. (1992). Presupposition projection and the semantics of attitude verbs. *Journal of Semantics*, 9:183–221.

Higginbotham, J. (1983). The logic of perceptual reports: An extensional alternative to situation semantics. *The Journal of Philosophy*, 80:100–127.

Higginbotham, J. (2003). Remembering, imagining, and the first person. In Barber, A., editor, *Epistemology of Language*, pages 496–534. Oxford University Press, Oxford.

Huang, N., Liao, C.-H., Hacquard, V., and Lidz, J. (2018). Learning attitude verb meanings in a morphosyntactically-poor language. In Bertolini, A. B. and Kaplan, M. J., editors, *Proceedings of the 42nd annual Boston University Conference on Language Development*, pages 359–373. Cascadilla Press, Somerville, MA.

Jackendoff, R. (1985). Believing and intending: Two sides of the same coin. *Linguistic Inquiry*, 16:445–460.

Jackendoff, R. (1995). The conceptual structure of intending and volitional action. In Campos, H. and Kempchinsky, P., editors, *Evolution and Revolution in Linguistic Theory: Studies in Honor of Carlos P. Otero*, pages 198–227. Georgetown University Press, Washington.

Jackendoff, R. (2007). *Language, Consciousness, Culture. Essays on Mental Structure*. MIT Press, Cambridge, MA.

References (cont.)

Jackendoff, R. and Culicover, P. W. (2003). The semantic basis of control in English. *Language*, 79:517–556.

Kratzer, A. (1998). More structural analogies between pronouns and tenses. In Strolovitch, D. and Lawson, A., editors, *Proceedings of Semantics and Linguistic Theory VIII*, pages 92–109. CLC Publications, Cornell University.

Ludwig, K. (2016). *From Individual to Plural Agency*. Oxford University Press, Oxford.

Pearson, H. (2016). The semantics of partial control. *Natural Language & Linguistic Theory*, 34:691–738.

Portner, P. (2017). On the relation between verbal mood and sentence mood. ms., Georgetown University.

Portner, P. (2018). *Mood*. Oxford University Press, New York.

Portner, P. and Rubinstein, A. (2012). Mood and contextual commitment. In Chereches, A., editor, *The proceedings of SALT 22*, pages 461–487. CLC Publications, Ithaca, NY.

Portner, P. and Rubinstein, A. (2020). Desire, belief, and semantic composition: variation in mood selection with desire predicates. *Natural Language Semantics*, 28:343–393.

References (cont.)

Rouchota, V. (1994). The semantics and pragmatics of the subjunctive in modern Greek: A relevance-theoretic approach. PhD Dissertation, University College London.

Roussou, A. (2009). In the mood for control. *Lingua*, 119:1811–1836.

Sæbø, K. J. (2001). Necessary conditions in a natural language. In Féry, C. and Sternefeld, W., editors, *Audiatur vox sapientiae: A Festschrift for Arnim von Stechow*, pages 427–449. Akademie-Verlag, Berlin.

Scheffler, T. (2008). Semantic operators in different dimensions. PhD Dissertation, University of Pennsylvania.

Searle, J. (1983). *Intentionality: An Essay in the Philosophy of Mind*. Cambridge University Press, New York.

Silk, A. (2018). Commitment and states of mind with mood and modality. *Natural Language Semantics*, 26:125–166.

Thomason, R. (2014). Formal semantics for causal constructions. In Copley, B. and Martin, F., editors, *Causation in Grammatical Structures*, pages 58–75. Oxford University Press, Oxford.

von Fintel, K. and Iatridou, S. (2020). Prolegomena to a theory of X-marking. ms., MIT.

Romanian

The same kind of pattern holds in Romanian:

(40) a. **Sper**   [**să** merg în parc].
          hope.1SG SBJV go   to park
          'I hope to go to the park.'

      b. **Sper**   [**că** voi merge în parc].
          hope.1SG that will go   to park
          'I hope that I will go to the park.'

(41) a. **Vreau**   [**să** merg în parc].
          want.1SG SBJV go   to park
          'I want to go to the park.'

      b. *****Vreau** [**că** voi merge în parc].
          want.1SG that will go   to park

(42) a. **Intentionez** [**să** merg în parc].
          intend.1SG SBJV go   to park
          'I intend to go to the park.'

      b. *****Intentionez** [**că** voi merge în parc].
          intend.1SG that will go   to park

Catalan

Catalan behaves likewise:

(43)   Tinc   la intenció d' [**anar** al   parc avui].
       have.1SG the intention of go   to.the park today
       'I intend to go to the park tomorrow.'

(44)   Tinc   la intenció [que en Joan **vagi**   al
       have.1SG the intention that the Joan go.SBJV to.the
       parc avui].
       park today
       'I intend for Joan to go to the park tomorrow.'

(45)   *Tinc   la intenció [que en Joan
       have.1SG the intention that the Joan
       va/anirà   al   parc avui].
       go.IND/go.FUT.IND to.the park today

Portuguese

And so does Portuguese:

(46)   Pretendo [**ir** ao parque hoje].
        intend.1SG go to the   park today
        'I intend to go to the park today.'

(47)   Pretendo [que o   João **vá**   ao   parque hoje].
        intend.1SG that the João go.SBJV to.the park   today
        'I intend for João to go to the park tomorrow.'

(48)   *Pretendo [que o   João **vai/irá**   ao
        intend.1SG that the João go.IND/go.FUT.IND to.the
        parque hoje].
        park   today

Italian

Italian is like French in this respect:

(49) {Intendo/Ho   intenzione di} [**andare** al
       intend.1SG/have.1SG intention of go   to.the
       parco oggi].
       park today
       'I intend to go to the park today.'

(50) *{Intendo/Ho   intenzione} [che Giovanni
        intend.1SG/have.1SG intention   that Giovanni
        vada   al   parco oggi].
        go.SBJV to.the park today

(51) *{Intendo/Ho   intenzione} [che Giovanni
        intend.1SG/have.1SG intention   that Giovanni
        {**va**/**andrà**}   al   parco domani].
        go.IND/go.FUT.IND to.the park today

Giannakidou and Mari 2021 (GM21)

▶ **GM21:** "[W]hen *i* intends to bring about *p*, *i* is aware that this may not happen" (p. 268), and this is why 'intend' takes subjunctive complements ('SUBJECTIVE NONVERIDICALITY'):

(52)   Mary **intends** to leave tomorrow, but she's perfectly aware that this may not happen.

▶ **Problem:** The same is true for 'hope' (Scheffler 2008; Anand and Hacquard 2013):

(53)   Mary **hopes** to leave tomorrow, but she's perfectly aware that this may not happen.

▶ GM21 thus—like PR20—wrongly predict 'intend' to pattern like 'hope' in mood choice.

Silk 2018

- ▶ **Silk 2018:** French 'want' and 'intend' pattern together unlike 'hope' in mood choice because the modal base for 'hope' is the subject's belief set whereas the modal base for 'want' and 'intend' are a superset thereof, à la Heim 1992.

- ▶ **Problem:** Silk's theory does not easily extend beyond French.

- ▶ **For example,** English is like French with respect to 'want', 'intend', and 'hope' ('hope' accepts indicative complements but 'want' and 'intend' do not), but English emotive factive predicates like 'be happy/sad' readily accept indicative complements. . .

  (54)   John is happy/sad [that it's raining].   INDICATIVE

  . . . even though, by Silk's Heim-1992-based logic, their modal base must be a superset of the subject's belief set.

Encoding causal self-reference, with individual and temporal *de se*

A semantics for intention reports, encoding causal self-reference:[2]

(55)   ⟦Jones intends PRO to lose⟧^{w,t} =
⟨∃s INTENTION(s,w) & HOLDER(j,s,w) & ∀⟨w′,t′,y⟩ ∈
CONTENT(s): ∃e CAUSE(s,e,w′) & ∃ t″ > t′: τ(e) = t″ &
LOSE(e,w′) & AGENT(y,e,w′)
where CAUSE(s,e,w′) = s causes e in w′, by a way of a
plan that ιx[HOLDER(x,s,w)] has
≈ *'There is some intention s held by Jones, and all
alternatives compatible with the content of s are such that
there is some event e, s causes e by way of a plan that
Jones has, and e is an event of Jones losing.'*

---

[2]Attitude alternatives are keyed to contentful eventualities (Hacquard, 2006), and consist of world-time-individual triples (Pearson, 2016).

Compositional implementation

(56) $\llbracket$PRO to lose$\rrbracket^{w,t} = \lambda e.\lambda x.\lambda t'.\lambda w'.\tau(e) = t'$ & LOSE(e,w')
& AGENT(x,e,w')

(57) $\llbracket$intend$\rrbracket^{w,t} = \lambda P.\lambda x.\lambda s.$INTENTION(s) & HOLDER(x,s,w)
& $\forall \langle w',t',y \rangle \in$ CONTENT(s): $\exists e$ CAUSE(s,e,w') & $\exists\, t'' >$
t': P(e)(y)(t'')(w')

Intro   Want/Hope   Intend   Previous work   Proposal   Beyond intend   Conclusions etc.   References   **Appendices**

○○   ○○○   ○○○○○ ○○   ○○○○○○○○○○ ○○○○   ○○○   ○○○○○○○○○●○○○○○

Implementing event abstraction

Background assumption: VPs introduce event arguments that get existentially closed by Aspect (cf. Kratzer 1998: 17):

(58)   a. $[\![\text{Imperfective}]\!] = \lambda P.\lambda t.\lambda w.\exists e\colon t \subseteq \tau(e)$ &
$P(e)(w) = 1$

           b. $[\![\text{Perfective}]\!] = \lambda P.\lambda t.\lambda w.\exists e\colon \tau(e) \subseteq t$ &
$P(e)(w) = 1$

Then, we can define subjunctive/nonfinite-only variants of Aspect, with "passing up" of event variable:

(59)   a. $[\![\text{Imperfective}'_{[uSBJV/NF]}]\!] = \lambda P.\lambda e.\lambda t.\lambda w.t \subseteq \tau(e)$
     & $P(e)(w) = 1$

           b. $[\![\text{Perfective}'_{[uSBJV/NF]}]\!] = \lambda P.\lambda e.\lambda t.\lambda w.\tau(e) \subseteq t$ &
$P(e)(w) = 1$

Intention-like predicates

Other predicates that have goal-oriented, causally self-referential content (Jackendoff's 1995; 2007 'actional attitudes') also disallow indicative complements, as expected:

(60)   Kim **aimed/attempted/tried/strove/sought** to get good grades.

(61)   *Kim **aimed/attempted/tried/strove/sought** that she would get good grades.

Plan as counterexample (cf. Jackendoff and Culicover 2003: 526)?

(62)   Kim **planned** {to get / that she would get} good grades.

Possibly connected to another sense of *plan*:

(63)   Kim planned that it would take 2 hours to get there.
        = Kim planned/counted on it taking 2 hours to get there.

Belief-/intention-hybrid predicates

Some verbs (e.g., *persuade*, *decide*) encode intention with
nonfinite complements but not with indicative complements:

(64) a. Kim **persuaded** Sandy to lose the race.
          $\rightarrow$ Sandy **intended** to lose.
      b. Kim **persuaded** Sandy that she would lose the race.
          $\rightarrow$ Sandy **believed** she would lose.

(65) a. Kim **decided** to quit smoking.
          $\rightarrow$ Kim **intended** to quit smoking.
      b. Kim **decided** that smoking is harmful.
          $\rightarrow$ Kim **believed** that smoking is harmful.

(Cf. Dowty 1985; Jackendoff 1985, 1995, 2007; Grano 2019, and
others.)

Belief-/intention-hybrid predicates

Similar facts hold in Greek:

(66)   I   Ariadne **epise**   ton Nikola **na**   fijoun.
       the Ariadne persuaded the Nikolas SBJV leave
       'Ariadne persuaded Nikolas (for them) to leave.'

(67)   I   Ariadne **epise**   ton Nikola **oti**   i   idea
       the Ariadne persuaded the Nikolas that.IND the idea
       tou ine kali.
       his is good
       'Ariadne persuaded Nikolas that his idea is good.' (GM21:
       42)

Verbs like 'persuade' are either polysemous or underspecified along
the belief/intention divide; either way, they substantiate the link
between **intention** and **subjunctive/nonfinite** mood.

Beyond intention: Causative and aspectual predicates

▶ Causative and aspectual predicates both plausibly operate on *eventualities* rather than *propositions*.

▶ Accordingly, they tend cross-linguistically to allow nonfinite or subjunctive complements but disallow indicative complements.

▶ Some supportive English data:

(68)   a.   I **made/let/helped/had** Kim leave.
       b.   I **caused/forced/compelled/drove** Kim to leave.
       c.   I **began/started** to solve the problem.
       d.   I **began/started/continued/stopped/finished** solving the problem.

(69)   a.   *I **made/caused/forced/compelled/drove** that Kim left/leaves/leave.
       b.   *I **began/started/continued/stopped/finished** that I solved the problem.

Beyond intention: Causative and aspectual predicates

Some supportive Greek data:

(70)   Ton ekana   **na**   hasi to telefteo leoforio.
him made.1SG SBJV miss the last   bus
'I caused him to miss the last bus.' (Rouchota 1994: 63)

(71)   Arxisa   **na**   grafo.
began.1SG SBJV write.1SG
'I began to write.' (Roussou 2009: 1815)