Flavours of Samoan Modality: 1/2
The Split between Epistemic and Root

Introduction.   We present an analysis of the modal system in Samoan, an Oceanic language, based on data from original fieldwork. Modal verbs in Samoan lexicalise modal *force*, that is, the distinction between possibility and necessity, but—with the exception of logical inference—do not allow for epistemic modal *flavours*. The data lend support to Hacquard (2006)'s analysis of the epistemic-root distinction as a difference in modal anchor (events vs. worlds), which results in distinct syntactic positions. The data however also challenge us to re-think the role of logical inferencing in the characterisation of epistemic vs. circumstantial modality (see also, e.g., Nauze 2008, Kratzer 2012, Matthewson 2016).

Dimensions of modal meaning.   Modal expressions can be characterised both descriptively and theoretically along the two dimensions of *force* (possiblity vs. necessity) and *flavour* (epistemic vs. several types of root modality). More formally, these dimensions—under analyses of English and German following Kratzer (1978, 1981, 1991)—translate to universal and existential quantification over the set of best of the accessible worlds. This set is determined partially by the lexical restrictions of the modal as well as by context. While this view of modality allows for a unified analysis of the different flavours frequently observed in one and the same modal, it does not do justice to the systematic syntactic and semantic differences epistemic versus root modal expressions exhibit across languages (Cinque 1999). While not without problems (relating to, e.g., the temporal interpretation of epistemic modals, see Matthewson 2016 and Chen et al. 2017), Hacquard (2006) proposes to resolve this tension with a quantificational analysis of modality that is relative to an event in the case of root and relative to a world in the case of epistemic modality. The data from Samoan are supportive of such an analysis.

The Samoan modal system.   Samoan modal verbs lexically specify both these dimensions; we focus here on *mafai* 'to be possible' and *tatau* 'to be necessary'. Additional modal verbs include the deontic necessity verbs *sā* 'to be prohibited' and *taga* 'to be allowed' as well as the root necessity verb *ao* 'to be necessary' (see also Mosel & Hovdhaugen 1992 and Mosel & So'o 1997). Evidence for a distinction between possibility and necessity comes from examples such as (1). Selected examples of root necessity and possibility are in (2) and (3), which receive a deontic and circumstantial interpretation respectively.

(1) a. [Two siblings discussing their mother's plans for them for the next day.]

  b. *E **mafai** ona mā asia le   mā tināmatua.*
    TAM possible that we visit the our grandmother
    'We can visit our grandmother.'

  c. *Ioe, e   **tatau**   ona mā asia le   mā tināmatua.*
    yes TAM necessary that we visit the our grandmother
    'In fact, we have to visit our grandmother.'

(2) *E **mafai** ona alu Rosa i le tifaga ma ana uo,   ae*
  TAM possible that go NAME to the cinema with her friend but

  *e **tatau**   ona to'e fo'i Rosa i le fale i   le tā   o le valu.*
  TAM necessary that return   NAME to the fale PREP the beat of the eight
  'Rosa may go to the cinema with her friends, but she must be home by 8pm.'

(3) *E to'afia   tagata e **mafai** ona ofi i   le ta'avale?*
  TAM HUM+many person TAM possible that fit PREP the car
  'How many people can fit in this car?'

The epistemic split.   Both modal verbs allow for epistemic readings only in a special case, namely logical inference from given premises (von Fintel & Gillies 2007), compare (4–5) to (6).

(4) a. [You look at the sky, and it is very cloudy:]

  b. #*E   **mafai** ona timu le afiafi.*
    TAM possible that rain the evening
    'It might be raining this evening.'

(5) a. <u>Context</u>: Fetu is one of the suspects in a burglary that happened last weekend: He has no alibi, has just bought an expensive car, and his fingerprints are found at the crime scene.

b. #*E* ***tatau*** *ona sā tago'ese Fetu i le tupe.*
TAM necessary that TAM(past.pfv) take+away Fetu PREP the money
'Fetu must have taken the money.'

(6)   a.   [A marble hidden under one of three cups, which are blue, red and yellow.]

     b.   *E* ***mafai*** *ona iai le mapu i lalo o le ipuinu lanumoana.*
TAM necessary that AUX the marple PREP inside of the cup+drink colour+blue
'The marble might be under the blue cup.'

     c.   [You have checked the blue and yellow cup, and the marble is not there.]

     d.   *E* ***tatau*** *ona iai le mapu i lalo o le ipuinu lanumūmū.*
TAM necessary that have the marple PREP inside of the cup   colour+red
'The marble has to be under the red cup.'

Other epistemic readings are encoded by means of sentence-initial particles like *'atonu* 'maybe', in (7). While *tatau* and *mafai* are main verbs that embedded a proposition and whose temporal-aspectual interpretation is determined by the grammatical markers they co-occur with (giving rise to an actuality entailment along the lines of Bhatt (1999) with the past perfective), the particle *'atonu* is realised and interpreted above TAM. It cannot occur in questions or *if*-clauses, (8) and (9). It may not appear below negation in the surface syntax and may also not be interpreted below it if it is realised above negation, (10). It may be embedded under attitude verbs and verbs of saying, (11).

(7)   a.   <u>Context</u>: When you and your co-worker arrive back at work in the morning and you open the fridge in the café, you notice that it is not cold.

     b.   ***'Atonu*** *sā pe le paoa anapō.*
maybe   TAM(past.pfv) the power last.night
'There might have been a power outage last night.'

(8)   a.   [Based on the TFS Storyboard "On the Lam":]

     b.   *****'Atonu*** *'o fea 'o lo'o lalafi ai?*   c.   **'O fea* ***'atonu...***
maybe FOC where TAM(ipfv) hide PRN   FOC where maybe
Intended: 'Where could they be hiding?'

(9)   a.   [Based on the TFS Storyboard "Feeding Fluffy":]

     b.   **'Afai* ***'atonu*** *'o se gata Fluffy, e sili atu ona 'e vili iā Pati.*
if   maybe TAM a snake Fluffy TAM great more that you ring to Patrick
Intended: 'If there is a possibility that Fluffy is a snake, you should call Patrick.'

(10)   a.   **E {lē/leai}* ***'atonu*** *'ua pula fuākoko.*
TAM NEG   maybe TAM(inch) ripe pods.koko
'It is not the case that the koko pods might ripe now, they most certainly are.'

     b.   ***'Atonu*** *e le'i pula fuākoko.*
maybe   TAM not.yet ripe pods.koko
Intended: 'It is not yet possible that the koko pods are ripe.'
'Maybe the koko pods are not yet ripe.'

(11)   *Sa fai mai Pita* ***'atonu*** *e timu le aoauli.*
TAM(past.pfv) say   NAME maybe TAM rain the afternoon
'Peter said that it might rain this afternoon.'

Discussion. Hacquard (2006)'s analysis allows us capture the syntactic and morphological differences between root modal verbs and sentence-initial epistemic modal particles in Samoan. The split we observe within epistemic modality invites us to re-consider whether logical inferencing can be characterised as circumstantial or whether these considerations are "a hopeless enterprise" (Kratzer 2012: p. 24) that requires we fundamentally re-conceptualise modality.

Selected short references. R. Bhatt (1999), "Covert Modality," UPenn Ph.D. dissertation. ::: N. Fabrice (2008), "Modality in Typological Perspective," Amsterdam Ph.D. dissertation. ::: K. von Fintel & A. Gillies (2007), "Opinionated Guide to Epistemic Modality," in *Oxford Studies in Epistemology*, pp. 32-62. ::: V. Hacquard (2006), "Aspects of Modality," MIT Ph.D. dissertation. ::: A. Kratzer (2012), *Modals and Conditions.* ::: L. Matthewson (2016), "Modality" in *Cambridge Hdbk of Formal Semantics*, pp. 726-775. ::: U. Mosel & E. Hovdhaugen (1992), *Samoan Reference Grammar.*