Associated motion with deictic directionals:
A comparative overview
Aicha Belkadi
ab105@soas.ac.uk

1. Introduction

This paper focusses on deictic directionals and their rarely discussed function as markers of Associated Motion (henceforth AM). AM is a term generally used to refer to a category of verbal affixes exhibited by a number of indigenous Australian, North American and South American languages, whose function is to indicate that the event encoded by a verb is framed with respect to a motion co-event (Koch, 1984; Wilkins, 2005; Guillaume, 2009 amongst others). The most characteristic systems of AM involve complex paradigms, where affixes are each paired with specific and quite sophisticated types of motion. Specifications may encode information about the direction and orientation of the motion event, a defined temporal relation with the verb's event, and particular aspectual notions. The examples below from the Australian languages Mparntwe Arrernte and Adnyamathanha illustrate some of the possibilities.

(1)   **Mparntwe Arrernte** (Australia: Wilkins, 2006)
angk-***artn***.alpe-ke
speak-QUICK:DO&GO.BACK-pc
'Quickly spoke and then went back.'

(2)   **Adnyamathanha** (Australia, Tunbridge, 1988)
yarta   veni witi-nali-***angg***-alu
ground   very pierce-CONT.COMING(sic)-PERF-3SG.ERG
'It (a piece of iron hanging down from a truck) poked into the ground all the way (to here).'

The affix *-artn-* in (1) marks that the event of speaking, lexicalised by the verb, is followed by a motion of the subject directed away from the deictic anchor. In addition, it also provides some information about the speed in which this event enfolds. The affix *-angg-* in (2) marks that the verb's event occurs continuously, as part of a motion oriented towards a deictic anchor.

A similar phenomenon has been described in a number of African languages from the Niger-Congo, Nilotic and Afro-Asiatic phyla (Frajzyngier, 1989; Bourdin, 2006; Alamin et al., 2012; Belkadi, 2014 amongst others) and for some South American languages, such as Quechua (Weber, 1989). In those languages, the motion co-event is marked by deictic directionals whose primary function is to encode ventive or itive path semantics rather than dedicated inflections. However the range of features that can be attributed to the added motion component often mirror those encoded by AM affixes. The example which follows from Taqbaylit Berber illustrates this.

(3)   **Taqbaylit** (Algeria, Belkadi: 2014)
           t-ɣra   *=d*   taktaf
           3SGF-read.PRF =VEN   book
           'She read the book and came back.'

In (3), the event described by the verb *ɣra* 'to read' is understood as being followed by a motion event of the subject of the verb directed towards the location of the speaker. This additional motion event is, in this example, encoded by the clitic *=d*, which is more commonly used in Berber as a deictic directional marking ventive path semantics.

AM interpretations of deictic directionals have been discussed in the literature under different terminologies, such as 'alloying', 'roundtrip motion' or 'coerced motion' (cf. Alamin et al., 2012; Bourdin, 2006; Belkadi, 2014), but overall remain largely underdescribed. For the most part, sources present passing examples in more general descriptions of deictic directionals and their range of interpretations in specific languages. The only detailed description of the phenomenon is provided by Bourdin (2006) for a range of AM uses of the ventive and itive particles in Somali. As will be discussed in various parts of this paper, Bourdin finds that pragmatic factors ─ such as the context of utterance, the TAM carried by the main verb, and its inherent lexical meaning ─ have an effect on how these various meanings are derived in the language. This scarcity and narrow focus of the literature available on the topic means that particular aspects of AM marked by deictic directionals (which I will refer to as D-AM), and related issues are not really addressed. First, the uses of directionals as D-AM markers are never systematically contrasted with their basic deictic path semantics uses. If examples are always shown to occur with verbs describing non motion events, no source has made the stance to explicitly separate the two functions. However, given that the two functions of directionals tend not to occur with similar classes of verbs and, more importantly, trigger different entailments or interpretations, it seems crucial to establish a distinction between them. Second, none of the previous literature on the topic has compared or linked the AM uses of directionals with the types of AM affixes described in examples (1) and (2). Given the similarities between the two systems, such a comparative discussion seems crucial to an understanding of D-AM.

The main aims of the present paper are precisely to address these questions. The first goal is thus to highlight some characteristic typological features of D-AM and further emphasize the role of pragmatics (as mentioned by Bourdin), such as implicature/inference and relevance, in the derivation of these interpretations. Its second aim is to draw some comparison with AM expressed by inflectional affixes (which I will refer to as I-AM).

The descriptive discussion of D-AM presented in this paper is based on a modest and preliminary survey[1] of six languages. Somali (Cushitic), Pero (Chadic) and a few Berber languages represent the Afroasiatic group. Tima and Päri represent respectively

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[1]This paper summarises on-going research. The author acknowledges that the languages considered (except Quechua) are closely related, but the discussion here is not intended as a fully-fledged cross-linguistic typology of AM expressed by directionals. The aim is rather to lay out some characteristics shared by the phenomenon in some languages and propose some criteria, which can be used as points of comparison for other languages.

Niger-Congo and Nilotic. Finally, Hualaga Quechua, from Peru, offers a non-African point of view. The data presented comes from two types of sources: general grammars of the relevant languages, and particular descriptions of deictic directionals and their uses in those languages. These works and their sources are referenced after relevant examples. The Taqbaylit data, unless stipulated otherwise, is data collected by the author during various fieldworks in Algeria. Given that D-AM is under-studied, it is not exactly known at this stage how widespread the phenomenon is. The languages for which data is available are all spoken in Africa, except Huallaga Quechua which is spoken in South America. Most of those languages, such as Pero, Berber and Somali, belong to the Afro-Asiatic phylum, and are spoken in Northwestern Africa, Nigeria and Somalia. The other African languages mentioned, Tima and Päri, although they belong to different language phyla, are both spoken in Sudan.

The paper is organised as follows. Section 2 introduces D-AM uses, and discusses how those differ from basic deictic directional uses. Section 3 is devoted to the characteristics of D-AM and the relation between the main verb's semantics and derived motion components. Sections 4 and 5 introduce the phenomenon of I-AM, and draw some comparison with D-AM.

2. Directionality and D-AM

Deictic directionals consist of verbal affixes, particles, clitics and sometimes prepositions which occur predominantly in the descriptions of motion events where they contribute a deictic path. Many languages have systems contrasting ventive morphemes, which orient the motion event to or towards the location of the deictic centre, with itive morphemes, which specify motion away or not in the direction of the deictic centre[2]. In discourse, the deictic centre very often corresponds to the speaker, but in narratives or with certain verbs directionals can be anchored with respect to other participants. The following Somali examples, where the particles *soo* and *sii* direct the motion event expressed by the verb *soc* 'walk' respectively toward and away from the speaker illustrate this.

(4)   **Somali** (Somalia; Claudi, 2012)
   a. wuu   *soo*   soc-eyaa
      FOC: 3SGM VEN   walk-PRSPRG:3SGM
      'He is walking towards me.'

   b. wuu   *sii*   soc-eyaa
      FOC:3SGM ITV   walk-PRSPRG:3SGM
      'He is walking away from me.'

Deictic directionals also regularly modify verbs that do not belong to the semantic class of motion. Often, the interpretations they get derive from their spatial semantics and metaphorical associations. They are, for instance, frequently found in the descriptions of

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[2] Languages differ as to the type of system of deictic directionals they use. Some languages have systems involving more morphological and semantic oppositions. Some languages only overtly mark ventive semantics. Amongst the languages surveyed Somali, Berber (except some varieties of Taqbaylit), and Päri formally encode a distinction between ventive and itive directions. Pero, Tima and Quechua only display ventive markers.

natural phenomena and bodily secretions, and descriptions of vision or perception events. These uses can be illustrated with the ventive clitic =*d* in Berber, which canonically occurs in descriptions of motion events (5a), but is also often found in clauses which describe events relating to bodily secretions, such as (5b), and those which describe events of perception, such as (5c).

(5)   a. **Ait Seghrouchen Berber** (Morocco; Bentolila, 1969)
           i-ṛaḥ   =***d***   ġr i
           3SGM-go,PRF =VEN   to POSS.1SG
           'He came to my house.'

       b. **Ait Seghrouchen Berber** (Morocco; Bentolila, 1969)
           imṬawn   La   Ṭaṛn   =***id***   zGʷaLn-inw
           tears   PROG   go.down   =VEN   eyes-POSS.1SG
           'Tears came down from my eyes.'

       c. **Ghadames Berber** (Libya; Kossman, 2013)
           a   ***ddu***_t-əswăḍ   ba_tănăt
           when VENT_3S:F-look:P   be.not:P_3P:F:ACC
           'When she looked, they were not there.'

In some of these contexts, deictic directionals can mark a contrast of visibility (see Fortis & Fagard, 2010). Ventive morphemes mark the fact that a particular object or abstract entity comes into the visibility of the speaker. Itive morphemes, on the other hand, specify the disappearance of an entity from the speaker's visibility. In (5b), for instance, the tears move from the inside to the outside of the body, where they become visible to the speaker and the ventive is used (Bentolila, 1969; El Mountassir, 2000 for a complete discussion relating to Berber). In other contexts, the deictic directionals may be used simply because the events described are perceived as involving motion, metaphorically. This is the case with events of perception and vision, which have been shown to be conceptualised in terms of the 'fictive' motion (i.e. abstract motion) of a perceived stimulus or of a sensory function of the perceiver (Talmy, 2000; Slobin, 2004). The event of looking in sentence (5c), from Ghadamsi Berber, is an instance of such fictive motion. It involves an abstract path, which the ventive deictically modifies[3] (Kossman, 2013; Belkadi, In Press). There would be, of course, much more to say about the uses of deictic directionals in such contexts. The point of this very brief discussion is that whether they mark visibility or fictive motion, ventive and itive morphemes are here used with their basic deictic path semantics: they specify the event encoded by the verb they modify as directed toward or away from the space of a deictic centre.

Another well-documented and fairly common route of extension for deictic directional morphemes is their grammaticalization into tense, aspect or modality markers (Bourdin, 1999; Heine & Kuteva, 2002). Grammaticalization into TAM markers reflects more general conceptual metaphors found in languages, associating the domains of space or motion with the domain of time (Bourdin, 2006; Evans, 2013; Lakoff & Johnson, 1980 amongst others). The Somali ventive particle *soo* discussed in (4) has, in addition to its

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[3] The deictic anchor here seems to be the experiencer in subject function rather than the speaker.

spatial semantics, aspectual and temporal uses. This is illustrated by the contrast in interpretation between the pairs of sentences below. Example (6b), which contains the particle, has a recent past interpretation not available in (6a), where the particle is absent. Similarly, the event described in (7b) is construed as continuing until present time, while it is not in (7a) (Bourdin, 2006: 25-26).

(6)   **Somali** (Bourdin, 2006)
　　a. wuu　　　　　iga　　　　　　bax-ay
　　　　FOCUS:3MASC.SG 1SG.OBJECT:from go.out-PAST:3MASC.SG
　　　　'He left my place (and went to do some errands).'

　　b. wuu　　　　　iga　　　　　***soo***　　bax-ay
　　　　FOCUS:3MASC.SG 1SG.OBJECT:from VEN　　go.out-PAST:3MASC.SG
　　　　'He has left my place not long ago.'

(7)　a. toban　　sanadood　uun　baan　　　bariis cun-ayey
　　　　Ten　　　years　　　only　FOCUS.1SG rice　eat-PAST.PROG:1SG
　　　　'During ten years (that I spent there) all I ate was rice.'

　　b. toban　　sanadood　uun　baan　　　bariis　***soo***　cun-ayey
　　　　Ten　　　years　　　only　FOCUS.1SG rice　　　VEN　eat-PAST.PROG:1SG
　　　　'[Enough is enough] for ten years now all I have eaten is rice.'

D-AM, the extension of deictic directionals as markers of Associated Motion, although more frequent than it appears, is typologically rarer than the types of extensions aforementioned. It also differs in several respects. The main distinction is of course that, in D-AM contexts, deictic directionals presuppose a motion event which occurs in addition to the event encoded by the verb stem they modify. Very frequently the verb stem does not encode motion, however the interpretation can arise with some verbs of motion, as in the following example from Taqbaylit Berber.

(8)　　**Taqbaylit**
　　　　i-ʕum　　　　　=***d***.
　　　　3SGM-swim.PRF　=VEN
　　　　'He (went somewhere) swam and came back (to the location of the speaker or to his house).'
　　　　'*He swam (towards or to the location of the speaker).'

Despite containing just one verb, the previous example describes two events. The main event, encoded by the verb form *iʕum* 'he swam', occurs against the backdrop of a motion event which is encoded by the deictic directional *=d* and encodes the path [go and come back]. The swimming event is understood as taking place in a location different to that of the speaker, but is not the event directly anchored deictically by the directional. Instead it seems that the AM event is directed with respect to a deictic anchor. Contrast this example with (9) in which the event encoded by the verb 'to jump' is the one being deictically anchored.

(9)   **Taqbaylit**
         t-jjlb   =**d**   γr tabla.
         3SGF-jump.PRF   =VEN   to table
         'She jumped on the table (in the direction of the speaker).

The crucial difference between the interpretations of the ventive in (8) and (9) is that in the former the deictic path is a subcomponent of the motion event encoded by the verb, while in the latter, deictic path is external to that event. Adopting Talmy's terminology (2000), the verb in (9) lexicalises both a motion component and a manner co-event. The clitic =*d* contributes a deictic path semantics to that complex event. The resulting interpretation is one in which the motion referred to by 'jump' in this particular context is translational. In (8), while the verb 'swim' encodes motion and manner, the deictic clitic does not intersect with these components. It is the AM event which is oriented deictically, rather than the event expressed by the verb.

Since the deictic path component in AM contexts is not a subpart of the event, it also differs from directional interpretations of deictics in terms of TAM sharing. In some rare contexts, seemingly when the verb carries present tense or imperfective semantics, the additional motion event can be understood with a future tense reference. The following data from Taqbaylit and Somali illustrates this.

(10) a. **Taqbaylit**
         lla   =**d**   i-tt-awum
         PROG =VEN   3SGM-IMPRF-swim.IMPRF
         'He is swimming and then he will come back.'

      b. **Somali** (Bourdin, 2006)
         wuxu   ***sii***   joog-aa   London
         FOCUS.3MASC.SG ITV   stop/stand-PRES:3MASC.SG   London
         'He is in London right now and will continue on his way (towards a place where I am not)

Finally, unlike other meaning extensions, such as TAM ones, D-AM extensions cannot be said to derive from conceptual metaphor. The reanalysis of deictic directionals as TAM markers involves a transfer of their spatial properties to the domain of time (Heine, Claudi & Hünnemeyer 1991). D-AM, on the other hand, does not involve such transfer between different domains of conceptualisation. In fact, both D-AM and deictic path uses of directionals belong to the same domain of space.

All these idiosyncrasies of D-AM show that it has to be set apart from other uses of deictic directionals, and be considered as a distinct route of grammaticalisation for these morphemes. A preliminary and tentative scenario for how D-AM may develop from the basic deictic path semantics of directionals is left until section 5. A brief typological survey of D-AM is first given in section 3 below, focussing on the range of properties attributed to the AM event.

3. Descriptive properties of D-AM

The motion event presupposed in D-AM occurs in addition to the event encoded by the verb modified by the deictic directionals, however the two events are semantically closely related. These semantic relations vary in different ways. Variations seem to be caused by the different constraints imposed by particular languages, but also often depend on the inherent semantics of the main verb and relevance given a particular pragmatic context. As mentioned in section 1, the role of verb meaning and pragmatics in deriving various D-AM interpretations has been highlighted by Bourdin (2006) in Somali. What follows differs from Bourdin's work in two ways. First, the properties of D-AM are here identified from a comparative perspective. Second, it focusses on how variations affect different aspects or components of the motion event: its time relation with the main verb's event, the shape of its path and the identity of the entity in motion. It also identifies a more prominent role to the lexical semantics of the verb and the type of events it refers to in deriving D-AM in the first place. These different aspects related to D-AM are discussed in turn from sections 3.1 to 3.4 below.

3.1. Time relations

Three time relations can obtain between the main verb's event and the motion event triggered by deictic directionals: precedence, concomitance and subsequence. Precedence obtains when the D-AM event occurs prior to the main verb's event. This is illustrated in (11) with two examples from Päri.

(11)   **Päri** (Sudan; Andersen, 1988)
    a. ùbúr   á-***ŋùt***-ò
       Ubur   C-cut+ITV+AP+INTR
       'Ubur went to cut.'

    b. ùbúr   á-***ŋùnn***-ò
       Ubur   C-cut+VEN+AP-INTR
       'Ubur came to cut.'

In (11a), the cutting event lexicalised by the verb is understood as being preceded by a motion of the subject *Ubur* towards a location which is not that of the speaker. This prior motion event is marked by the itive directional, incorporated into the verb. Notice that the two events are related semantically, since the motion event occurs for the purposes of the event encoded by the verb. A similar presupposition is made for (11b), where the event of cutting is preceded by a motion of the subject, this time directed towards the location of the speaker. Again, motion is marked by the ventive directional on the verb.

Concomitance obtains when the two events take place at simultaneous time intervals. In (12) below, from Tamasheq Berber, the event described by the verb glossed as 'to work' occurs over the duration of the motion event implied by the ventive marker *ə́dd*.

(12)   **Tamasheq Berber** (Heath, 2006)
           i-ššəɣæ-**ə́dd**
           3SGM-work.PERF-VEN
           'He came working (he was working as he came).'

This temporal relation seems to be mainly derived from pragmatic factors. Indeed, as will be discussed in more detail later, concomitance is often found in particular situational contexts or with verbs which describe events more likely to occur as part of an overall motion event.

The third temporal relation that can hold between a D-AM event and the main verb's event is subsequence. In such instances, the added motion occurs after the event described by the main verb. The examples in (13) illustrate this.

(13) a. **Tima** (Sudan, Alamin et al., 2012)
          kɔ́yɔ̀-**ə̀ŋ**   k-ùrtú
          build.IMP:SG-VENT   NC.SG-house
          'Build the house and come.

      b. **Pero** (Nigeria, Frajzyngier, 1989)
          cúg-**ínà**   tù   púccù
          fall-COMPL.VENT   PREP there
          'He fell there and came.'

      c. **Somali** (Bourdin, 2006)
          soo   joogso
          VEN   come.to.a.halt:IMPER.2SG
          'Stop fooling around and come here!'

In the examples above from Tima, Pero and Somali, the motion events are marked by the language's respective ventive directionals, and occur after the event encoded by the main verb.

Overall, time relations seem to follow consistent patterns given a particular language and a particular directional. In Berber the ventive directional primarily triggers subsequent motion interpretations, while the itive is used primarily for precedence. Kossman (2013) describes (but does not give examples) Associated Motion interpretations triggered by the itive clitic with verbs of verbal interaction such as *ăn* 'to say', *aslil* 'to call', *ăsmaǧǧi* 'to speak' in Ghadamsi. In addition to describing that the agent is not in the same location as the deictic centre, the itive may presuppose a prior motion of the verb's subject. The following examples from Tamasheq Berber show further the link between ventive and subsequence and the link between itive and precedence in Berber.

(14)   **Tamasheq** (Mali, Heath, 2006)
      a. i-jræ̀w-**ə̀dd**   áẓrəf   y   a-d   əqqən-æɣ
          3SGM.S-find.PERF-VEN money DAT DEM-Comit build.SHIMPRF-1SG.S
          'He got (literally found) money and brought it in order that I build.'

b. i-kfa-**hín**   áẓrəf è   mæssi-s
   3SGM.S-give.PERF-ITV money DAT master-3SG.POSS
   'He went and gave the money to his master.'

The temporal connections that arise are not necessarily strict. D-AM events may occur at other times depending on the main verb's meaning and situation referred to, or the particular context of utterance. Bourdin (2006) shows that D-AM involves concomitance instead or in addition to subsequence in Somali, if the pragmatic context allows it. To illustrate this variation in interpretations, he discusses the examples in (15), which involve the verb *seex* 'to sleep'. The event that the verb describes can be understood as occurring before the motion event marked by the ventive *soo*, as in (15a.i). Alternatively, if the subject of the verb is known by the speech participants to have travelled prior to the time of utterance – for instance by bus – the verb's event can be presupposed to have occurred during this particular motion situation. This is what happens in the second interpretation of (15a). The example in (15b) contains a specification of the location of the sleeping event described by *seex*. There the event is explicitly specified as having occurred inside a bus. The presence of the ventive marker implies that this bus journey took place toward the location of the speaker.

(15)   **Somali** (Bourdin, 2006)
   a. waan   ***soo*** seex-day
      FOCUS:1SG VEN sleep-PST:1SG
   (i) 'I took a nap before coming here.'
   (ii)'I took a nap on my way here (on the bus).'

   b. bas-kuu   ku ***soo*** dhex   seex-day
      bus-DEF:3SGM in VEN inside   sleep-PST:3SGM
      'He slept on the bus on his way here.'

As the following examples show, similar contextual coercions are found in Berber. In (16b), the event of working is understood as occurring during a journey to the deictically anchored location. Example (15a) is slightly different. Concomitance is inferred because of the agent of the verb in this particular sentence, and the typical ways in which it acts: a fire typically spreads out while destroying (hence eating) everything on its path.

(16)   **Tamasheq** (Heath, 2006)
   a. i-kša-***hin***
      3SGM.S-eat.PERF-ITV
      'It (=bush fire) ate up (the vegetation) going away that way.'

   b. i-ššəɣæ-***ə́dd***
      3SGM-work.PERF-VEN
      'He came working (he was working as he came).'

As mentioned before, the inherent meaning of a verb and the type of event it lexicalises also participate in triggering temporal adaptations. Bourdin (2006), again, discusses some examples from Somali, which are provided in (17) below. The examples show the

interpretations on the motion event which arise when the ventive *soo* is used with the verbs glossed as 'to sleep' and 'to sit down' in face to face conversations. In these contexts, the directional derives an anterior motion, rather than the most common subsequent motion. The reason for these coercions is that these events usually imply the impossibility of motion of their subject while they unfold. What's more, the result states they trigger usually last for some time. Thus a motion following these events, in the short time interval presupposed by a face to face conversation is rather unlikely. Given this, the most relevant type of motion is one which is prior to the verb's event.

(17)   **Somali** (Bourdin, 2006)
a. *soo*   seexo
VEN   sleep:IMPER.2SG
'Come sleep over here!' [face to face conversation]
'*Sleep and come over here.'

b. *soo*   fadhiso
VEN   sit.down:IMPER.2SG
'Come here and sit down!' [face to face conversation]
'*Sit down and come here!'

Due to the scarcity of the data on AM interpretations of deictic directionals available in the literature, it was not possible to find more examples of such changes in the various languages consulted. A possible similar instance was however found in Tamasheq Berber involving a verb describing a drinking event. In this example, provided in (18) below, a causative motion event (translated as 'to give' by the source) seems to be presupposed by the presence of the ventive directional.

(18)   **Tamasheq Berber** (Heath, 2006)
Ø-òlæs-à-s   æ-næ̀s-bahù   t-ənna
3SGM-repeat.PERF-DAT-3SG   SG-AGENT-lying 3SGF-say.VblN

i-ffúd   a-tt-***ədd***
3SGM-be.thristy.RESLT   DEM-3SGM.O-VEN

ì-s-əsə́w
3SGM-CAUS-drink.AOR
'The lying man proceeded to say (that) he was thirsty, and he (=midget) should give him (something) to drink.'

Example (18) is interesting because, as mentioned previously, the ventive directional in Berber, including Tamasheq, usually derives a subsequent motion. However, in this particular context and with this particular verb, the motion event occurs prior to the drinking event. As in Somali, precedence seems to be triggered here by the interaction between the inherent semantics of the verb and pragmatic relevance. Indeed for an agent to make a patient drink, which is essentially what the example describes, it makes more sense for the former to move towards the latter before rather than after. This example and the few preceding ones demonstrate the crucial role of the semantic and pragmatic contexts in determining the time in which the presupposed motion occurs with regard to

the verb's event. As will be shown in the following sections, pragmatics and semantics also play a role in fixing other features of the motion event.

3.2. Shape of the path

The shape of the path associated with the presupposed motion event varies too. Most of the data discussed in the previous sections involve motion whose paths are simplex: in each case, the event encoded by the verb occurs in a particular location and is either preceded or followed by a motion event directed towards or away from the deictic centre. AM encoded by ventive elements can however involve complex paths of the type [go and come back/ return]. The first part of the path is directed towards a location distinct from the deictic centre, where the main verb's event takes place. The second part of the path is directed toward the deictic anchor. The first part of the path may not be overtly given in translations, but instead implied by the return part of the path. This 'return-shaped' path (after Wilkins, 2006) arises in many contexts and in most of the languages surveyed. It is this particular shape of the path and its frequency which has led scholars like Bourdin (2006) to use the term 'roundtrip motion'. The following examples from Quechua, Taqbaylit and Tashelhit Berber illustrate this particularity.

(19)   **Huallaga Quechua** (Peru; Weber, 1989)
    a. tanta-ta   ranti-Ri-***mu***-y
        bread-OBJ   buy-SUD-VENT-2IMP
        'Go buy bread (and return quickly).'

    b. wanu-chi-***mu***-sha-: aycha-ta
        'The meat that I killed (i.e. which I went off and killed and brought back here).'

(20) a. **Taqbaylit**
        tlm-γ   =***d***   taqbaylit
        learn.PRF-1SG =VEN Taqbaylit
        'She learned Taqbaylit and came back.'

      b. **Tachelhit** (Morocco; El Mountassir, 2000)
        i-kka   =***d***   Brahim Franṣa
        3SGM-pass.PRF   =VEN Brahim France
        'He passed in France and came back.'

A return-shaped path seems to be the default interpretation of D-AM in most northern Berber dialects which present the trait, in Quechua and Somali. The frequency of these interpretations may be attributed to particular elicitation techniques. Informants may need to first construct a motion away from the location of utterance, in order to then construct a motion event whose path can be directed toward the deictic centre. Data from Tima discussed in Alamin et al. (2012) seem to support this hypothesis. In this language, complex paths are limited to discourse situations where both the speaker and their addressee are in the same location. In such contexts, the first part of the path has to be overtly expressed by the Tima counterpart of the English verb 'to go'.

(21)   **Tima** (Alamin et al., 2012)
    a. àyí   mɔ́ɔk-***iŋ***
       go.IMP:SG   drink.IMP:SG-VENT
       'Go, drink, and come (back).'

    b. àyí   kɔ́yɔ̀-***ə̀ŋ***   k-ùrtú
       go.IMP:SG   build.IMP:SG-VENT   NC.SG-house
       'Go, build the house and come (back).'

Alternatively, return-shaped motion might be argued to be triggered specifically by the 'toward deictic centre' semantics of ventive directionals. It is possible that ventive morphemes are interpreted in those instances as directing the motion event to a prominent location, rather than simply the location of a deictic centre. A location already visited by a subject is more prominent, and this would make the return meaning more frequent.

Complex D-AM gives rise to a subtle range of interpretations. In the following example from Somali (Bourdin, 2006), D-AM motion involving a motion of the subject away from the speech location and a return to the speech location underlies the meaning of that sentence, even though it is not overtly expressed as such.

(22)   aad   baan   u   ***soo***   cun-i
    much   FOCUS:1SG to/for   VEN   eat-INFNT
    'I'm going to stuff myself while you wait for me here.'

The precise shape attributed to the path of the presupposed motion event is context-dependent. Concomitant motion, for instance, is more likely to involve a simple path, while subsequent motion tends to involve a return-shaped path. The semantics of the verb modified by the clitic may also prompt specific path semantics. In Taqbaylit Berber, for instance, verbs lexicalising states or events involving the appearance of a new state, coerce a path which is more likely to be simplex, than complex (although these interpretations are also possible). In such contexts, the predominant interpretation is one in which the new state comes about in a distal location, followed by motion of the theme to a goal location, where the speaker is. This is illustrated with example (23).

(23)   **Taqbaylit**
    t-zz-bzəgg   ***=d***   iman   =is   yawək.
    3SGF-CAUS-be.wet.PRF =VENT   self   =POSS.3SG   all
    'She arrived soaking wet (to the location of the speaker)'.

Like any other motion event, D-AM presupposes the displacement of an entity, which after Talmy (2000) I will refer to as the figure of the event. In all the examples so far, the figure systematically corresponds to the subject of the main verb. This, however, is not necessarily the case. These variations are covered in the next section.

3.3. Identity of the figure
As mentioned above, in most cases of D-AM, the figure of the presupposed motion event coincides with the subject of the verb. However, some languages display more

complex patterns. In Pero, Ait Seghrouchen and Tamasheq Berber, the figure can be the object of a transitive verb. In such cases D-AM derived from transitive verbs is causative. There must be contemporaneity between the motion of the verb's subject and its object. The figure is the object of the verb, while the subject of the verb is understood as the agent of the causative motion.

(24)   **Pero** (Frajzyngier, 1985)
     a.   ní   -íp   ***-nà***   tújè
         1SG   catch COMP.VEN   horse
         'I caught a horse (and brought it).'

     b.   nì   -íp   ***-nà***   póngè-ì
         1SG   catch COMP.VEN   the money
         'I caught the money (and brought it).'

(25)   **Ait Seghrouchen Berber** (Bentolila, 1969)
     aṛaḥ   ažm   ***=d***   aman
     go.AOR   draw.out.AOR   VENT water
     'Go draw out some water (and bring it here).'

(26)   **Tamasheq** (Heath, 2006)
     i-jræ̀w-***ədd***   áẓrəf   y   a-d
     3SGM.S-find.PERF-VEN   money   DAT   DEM-COMIT

     əqqən-æɣ
     build.SH.IMPRF -1SG.S
     'He got (literally found) money and brought it in order that I build.'

The figure of AM may not be an argument of the verb, and instead be a speech participant or some prominent discourse entity. This is quite rare and seems to be triggered by both pragmatic and semantic factors. In the corpus surveyed only two examples were found in Taqbaylit Berber and Quechua, two languages which follow a consistent (almost strict) subsequent motion pattern. Both examples involved stative verbs translated as 'to remain' modified by a ventive directional. They are presented in (27) and (28).

(27)   **Huallaga Quechua** (Weber, 1989)
     tayta-:   ospital-chaw   keeda-kU-***mu***-sha
     father-1P   hospital-LOC   remain-REFL-VENT-3PRF
     'Father remained (over there) in hospital.'

(28)   **Taqbaylit** (Mettouchi, 2011)
     tə-qqim   ***=dd***   faṭima   tuhṛiʃt-nni
     3SGF-sit.PRF   =VEN   Fatima   clever-DEM
     '(There) remained Fatima.'

In the above examples, the deictic expressions 'over there' and 'there' are not overtly expressed but implicitly understood and provided in the translations. These deictic

expressions, which serve to locate the place of the states unfolding as distinct from the deictic centre, clash with the ventive semantics of the directionals used. These unexpected inferences are easily explained by assuming that there is motion expressed there, but one where the figure is not the subject of the verb — who is described as remaining in a distinct location — but the speaker or another participant.

More rarely, the directional itself forces subject-figure 'disjointness' (Bourdin, 2006). Amongst the languages surveyed, only Somali seems to follow this pattern. Precisely Bourdin (2006) attributes a function of 'switch-reference' to the itive *sii*. Where a motion event whose endpoint is distinct from the deictic centre cannot be inferred, a motion whose figure is a discourse participant, rather than the main verb's subject is constructed (see also Claudi, 2012).

(29)   **Somali** (Claudi, 2012)
    a. *sii*   seexo
       ITV   sleep.IMPRF.2SG
       'Have a rest until I come back.'

    b. aad   baan   u   *sii*   cun-i
       much   FOCUS:1SG to/for   ITV   eat-INFN
       'I'm going to stuff my face, while you are out.'

    c. muus   wuu   *sii*   cun-eyaa
       banana   FOCUS   ITV   eat-PRSPRG:3SGM
       'He is eating a banana while I'm absent.'

It is quite evident that a range of factors play a role in the different properties of an additional motion event. One of these factors is the particular semantics of the main verb. Indeed it was shown at different points of the previous discussion that the inherent semantics of a verb affect the time relation of an AM or the identity of its figure. The particular semantics of the main verb may actually play a more crucial role. It may be a pivot not only in the types of AM we get, but more importantly on whether we get it at all. This issue is covered in section 3.4.

3.4. Main verb's semantics
The two functions of deictic directionals distinguished in section 2 — i.e. basic directionality and D-AM — rarely overlap. Each function is associated with coherent semantic classes of verbs. Most of the languages surveyed seem to have a clear-cut dichotomy whereby motion verbs trigger directional uses, while other classes of verbs trigger D-AM uses. This seems to be the option followed by Somali (Bourdin, 2006; Claudi, 2012). Other systems are a bit more complex. In Tima (Alamin, et al., 2012), for instance, verbs describing motion events as well as verbs describing natural phenomena and bodily secretions trigger directional uses of the ventive affix, while other classes of verbs derive Associated Motion interpretations.

(30)   **Tima** (Alamin et al., 2012)
         a. kɨ̀-címbʌ́rí   ɛ́n-díík-**íŋ**   áɣ̀ɪ̪nt̪ə́   mádə̀ràsà
            NC.SG-child   TAM-walk-VEN   DIR:SPEAKER.THERE   school
            'The child is walking towards the school (where I am).'

         b. kw-àaɽə́k   ɛ́-w-ʊ̀dànà-y-**íŋ**
            NC.SG-sky   TAM-EE-cry-EE-VEN
            'It was thundering (lit. the sky cried towards the speaker)'.

(31)   a. kɔ́yɔ̀-**ə̀ŋ**   k-ùrtú
          build.IMP:SG-VENT   NC.SG-house
          'Build the house and come.'

       b. mɔ́ɔ̀k-**íŋ**
          drink.IMP:SG-VEN
          'Drink and come.'

In Qechua (Weber, 1989), D-AM is more likely to be triggered by verbs that do not describe motion events. The only exception seems to be with verbs of emitting and perception of some stimulus, which do not involve D-AM as long as the speech participants are separated by some distance (Weber, 1989). Compare, as an example, the interpretations of (32a) and (32b).

(32)   **Huallaga Quechua** (Weber, 1989)
         a. rika-ykU-**mu**-nki   wasi-nchi:-ta   ima-shi   ka-yka:-n
            see-IMPACT-VEN-2IMP   house-12P:-OBJ   what-IND   be-IMPRF-3
            'Go see what there might be in our house (and come back).'

         b. qam-ta   rika-**mu**-:
            you-OBJ   see-VEN-I
            'I see you (over there).'

Both clauses provided in (32) are headed by the verb of perception *rika* 'to see', which in both instances is modified by the ventive affix *-mu-*. In (32a), the speaker and subject of the verb, which happens to be the addressee, seem to be located in the same space and a motion event interpretation is triggered. In (32b), the speech participants are not in the same location and the ventive does not give rise to an AM interpretation.

Taqbaylit Berber and a number of northern Berber languages have an overall clear-cut distinction between D-AM verbs and others, but the dichotomy is more difficult to establish. Deictic directional readings are found with verbs of motion, as long as they encode an orientation or imply translational motion, verbs of perception and emission of a stimulus, verbs of transfer, degree achievements, inchoative verbs and their causative counterparts (Belkadi, 2014; in press). All other activity verbs, statives or motion verbs which describe events not conceptualised as involving traversal of space (such as the verb 'to dance' in 34) derive D-AM interpretations (Ibid). Some examples are provided in (33) and (34).

(33)   **Taqbaylit Berber: directional readings** (Belkadi, 2014)
    a.   t-jjlb   =*d*   γr   tabla.
         3SGF-jump.PRF   =VEN   to   table
         'She jumped on the table (in the direction of the speaker).'

    b.   t-γni   =*d*   taʕcit   kaml!
         3SGF-sing.PRF   =VEN   afternoon   whole
         'She sang the entire afternoon!'

    c.   y-vna   =*d*   uxxam.
         3SGM-build.PRF =VEN   house
         'The house got built'.

    d.   y-ḥma   =*d*   yimnsi.
         3SGM-be.hot.PRF =VEN   dinner
         'The dinner became hot.'

    e.   fka-n   =as   =*d* i   tqcict snat n tibwadin n lggatu.
         give.PRF-3PLM =3SG.DAT =VEN DAT girl   two of boxes   of sweets
         'They gave her two boxes of sweets.'

(34)   **Taqbaylit Berber: D-AM readings** (Belkadi, 2014)
    a.   t-zz-bzgg   =*d*   iman   =is   yawk
         3SGF-CAUS-be.wet.PRF =VEN   self   =POSS.3SG all
         'She went somewhere, soaked herself and came back' or 'She arrived
         soaking wet (to the location of the speaker)'.

    b.   t-γra   =*d*   taktaf
         3SGF-read.PRF =VEN   book
         'She read the book somewhere else and came back (to the location of the
         speaker).'

    c.   t-cdḥ   =*d*   di tamγra
         3SGF-dance.PRF =VEN   in wedding
         'She danced at the party and came back.'

Based on these facts, Belkadi (2014) proposes that directionals in Taqbaylit deictically modify any verb which lexicalises a path or encodes an event conceptualised as involving translational motion[4]. Events which do not fit the relevant criteria derive D-AM readings. The fact that all languages surveyed display D-AM with verbs not encoding motion, or for some with verbs expressing events which do not involve fictive motion (e.g. events involving vision, perception and emission of stimuli), do not describe bodily secretions, natural phenomena or change of states, corroborates this

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[4] Belkadi (2014)'s analysis is based on Beavers (2008)'s analysis of the goal marker –*ni* in Japanese, and work by Beavers, Levin & Tham (2009, and references therein) identifying the role of pragmatics in directional interpretations of locative prepositions with some manner verbs in Romance and Germanic languages.

analysis. The exclusion of D-AM with motion verbs, particularly those which encode orientations or paths, suggests that the phenomenon is primarily derived pragmatically, as a kind of 'last-resort' interpretation. This pragmatic derivation further explains the range of D-AM interpretations: it occurs in contexts where motion is required and speakers construct the most appropriate motion event given the context.

This analysis of D-AM as a pragmatic reconstruction based on inference and relevance is further supported by the fact that various verbs in some of the languages surveyed can trigger either D-AM readings or basic directional readings depending on the actual situation they refer to. An example is given below from Quechua, where the verb translated as 'to work' is deictically modified by the ventive affix *mu* if it describes an event which can be interpreted as involving motion (35a). But if it cannot be interpreted as such, it presupposes the occurrence of a separate motion event (35b).

(35)　**Huallaga Quechua** (Weber, 1989)
　　a. sikya-ta　　aru-***mu***-shaq
　　　　ditch-OBJ　　work-VEN-1FUT
　　　　'I will work the irrigation ditch (proceeding toward here).'

　　b. wasi-ta　　aru-***mu***-shaq
　　　　house-OBJ　work-VEN-1FUT
　　　　'I will work the house (going over there to do so and then returning).'

The properties of D-AM highlighted by this small survey are summarized below.

(i)　　　D-AM involves consistent time relations between the added motion event and the event encoded by the verb. This relation is either one of precedence or subsequence. Those time relations can, however, be reversed if the pragmatic or syntactic context requires it.

(ii)　　　D-AM seems to consistently also imply concomitance between the two events involved, if this interpretation is the most relevant given the context.

(iii)　　The path of D-AM can be straight or complex. In some languages, again, relevance plays an important role in the type of path constructed.

(iv)　　In most D-AM cases, the figure of the motion event is identified with the subject of the verb, but if the verb is transitive the figure may be identified with the object of the verb. More rarely another participant can also be the figure of the motion event.

(v)　　　D-AM readings tend to arise in contexts where a canonical directional reading is not derivable, often outside of motion event descriptions. It follows from this that D-AM interpretations of deictic directionals are in complementary distributions with their basic directional readings.

(vi)　　D-AM presuppositions are context-dependent.

This section has highlighted the main semantic properties of AM marked by deictic directionals. As mentioned in section 1, this phenomenon is very similar to Associated Motion marked by an inflectional or affixal category (I-AM) found in a number of Australian and Amerindian languages. The remainder of this paper is devoted to comparing the two systems. In section 4 below, a description of I-AM is provided. In section 5 a comparison between D-AM and this category is provided.

4. Inflections of Associated Motion in Australian and Amerindian languages

Affixes marking Associated Motion are reported in a range of Australian languages from the Pama–Nyungan phylum, such as Yidiŋ (Dixon, 1977), Mparntwe Arrernte (2006), Adnyamathanha (Tunbridge, 1988); Diyari (Austin, 1989) and Kaytej (Koch, 1984). Similar categories are described in some indigenous North and South American languages, such as Atsuwegi (Talmy, 2000: 123), Olutec and Cavineňa (Guillaume, 2009). This category is not widely studied and only a few detailed descriptions exist for particular languages (cf. Koch, 1984; Tunbridge, 1988; Wilkins, 2006; Guillaume, 2009), especially outside of the Pama-Nyungan family. These rare overviews describe I-AM as occurring productively, with a wide range of verbs including motion verbs, and present paradigms which mark a number of semantic oppositions, many identical to those found with D-AM. Guillaume (2009: 198-201) provides a brief comparative survey of the features encoded by these affixes in two languages ─ Cavineňa, a Tacanan language spoken in Bolivia and Mparntwe Arrernte, spoken in central Australia ─, and concludes that such systems encode specifications of the time relations between the I-AM event and the verb's event, information about the deictic direction and shape of path of the added motion component, as well as a specification on the identity of the figure. These suffixes may also encode other kind of information relating either to the verb's event, the AM itself or its outcome.

Given the small amount of data available, a typological description of the phenomenon is not possible at this stage. However, as an illustration of the types of semantic features encoded by the affixes and for comparative purposes with D-AM, an overview of I-AM paradigms in four languages which systems have been described in more or less detail, are presented below. These languages ─ Cavineňa, Mparntwe Arrernte, Adnyamathanha and Atsuwegi ─ belong to three distinct genetic groups (respectively Tacana, Pama-Nyungan and Palaihnihan) and are spoken in each of the three different geographical areas where AM affixes have been reported: South-America, Australia and North-America.

4.1. Cavineña: South America

Cavineña (Guillaume, 2009) has a complex system of I-AM suffixes, which occur frequently with all verb classes except deictic verbs. These suffixes form complex paradigms, and are each paired with a meaning which may include deictic orientation, a specific time relation with the verb's event, some aspectual specification of the motion event (iterative or punctual), some aspectual specification of the outcome of the motion event (whether it is temporary or permanent) and a specification about the identity of the figure. Some examples are provided in (36)-(38).

(36)   **Cavineña** (Bolivia; Guillaume 2006)
  a. tudya   =ekwana   ba-*li*-kware   takure.
      then   =1PL   see-**GO.TEMP**-PASS.REV   chicken.
      'Then we went and saw our chickens (at the back of the truck where they were gathered and dead)

  b. wipichitana=tsewe =tura   =Ø   tya=*na*-ya   jae.
      curtsey=with   =3SG.ERG =1SG   give-**COME.TEMP**-IMPF   fish
      'She came to give me fish with a curtsey.'

(37)   …kiketere-aje-kware   maju-*diru*=ishu.
         complain-**GO.ITERATIVE**-PASS.REV   die-**GO.PERM**=but
         '(The jaguar which I had just shot) complained repetitively while going away from me to go and die further away.'

(38)   era   =tu peta-*kena*-chine   epuna
         1SG.ERG =3SG look-**GO**-PASS.REC   femme
         'I looked at the woman and I left.'

The suffix *-li* in (36a) marks a prior motion event, directed away from the deictic anchor, and whose end location is temporarily visited by the figure. The suffix *-na* in (36b) encodes the same semantic traits, but provides a different deictic direction, since the motion event is directed toward the deictic anchor. They contrast with example (37) in which there are two I-AM markers: *-aje*, which encodes iterativity and simultaneity in addition to deictic direction, and *-diru*, which encodes deictic direction, precedence, but also specifies that the end location is a permanent one. The example in (38) involves the suffix *-kena*, which marks subsequence. Cavineña also has two I-AM markers, *-tsa* and *-dadi*, found on transitive verbs, which in addition to deixis and simultaneity, specify that the entity moving is the object of the verb. Two examples are provided in (39) below with the verb *ba* 'to see'. In both cases, the stimulus, realised grammatically as the object of the verb, is understood as the figure of the associated motion event.

(39) a. tume =pa =taa   =tuja   =tu ba-*tsa*-ya   ekwita…
         Then =RAP =EMPH   =3SG.DAT =3SG see-**COME(O)**-IMPF   person
         'He saw a person coming in his direction.'

     b. peadiya ekwita   =tuke=Ø   ba-*dadi*-wa…
         one   person   =3SG =1SG see-**GO(O)**-PRF
         'I saw a person go (with two ducks he was stealing from us).'

4.2. Mparntwe Arrernte and Adnyamathanha: Australia

Wilkins (1995; 2005) describes a similar system in Mparntwe Arrernte. Like the Cavineña affixes, the inflections occur with all classes of verbs, except verbs of deictic motion. The reasons given by Wilkins & Hill (1995) for this restriction are that the information encoded by the inflectional markers is usually already encoded by the deictic roots, and also that most of the inflectional markers are themselves derived from some of the deictic roots. The suffixes, fifteen in total, encode similar information to Cavineña: a specific time of occurrence of the motion event relative to the verb's event,

a deictic direction, and some identification of the figure. Additionally, they provide information about the particular shape of the path of motion, its orientation, and about the speed of the motion event. A few examples from Wilkins (2005) involving the verb *angke* 'to speak' are provided in (40). The examples in (41-42) show that oriented motion verbs (i.e. those that encode a path component), and also verbs describing events such as 'sit down' can occur with the markers of I-AM (contrary to what is found in D-AM languages).

(40)   **Mparntwe Arrernte** (Australia; Wilkins, 2005)
a. angk-***intye***-ke
   speak-**DO.COMING**-PC
   'spoke while coming this way.'

b. angke-***nhe***-ke
   speak-**DO.PAST**-PC
   'spoke while going past.'

c. angk-***artn***.alpe-ke
   speak-**Quick:DO&GO.BACK**-PC
   'Quickly spoke and then went back.'

d. angke-***ty.intye***-ke
   speak-**DO.on.ARRIVAL**.of-PC
   'Spoke to Z as soon as Z arrived.'

(41)   … ahelhe-ke   anteme   itne   irrpe-***ty.alpe***-ke.
         ground-DAT   now   3PLS   enter-**GO.BACK&DO**-PC
         'they (the ancestral caterpillars) went back (to Emily Gap) and now
         entered the ground (there).' (lit. entered after having returned).

(42) a. Alhere-le   re   arelhe ikwere-nge   an-***intye***-ke
        creek.bed-LOC   3SGS   woman   SGDAT-ABL(WITH)   sit-**DO.COMING**-PC
        'He stopped and sat in the creek-bed with that woman on his way coming
        here.'

    b. Ampe   re   ulyentye-le inte-***ty.antye***-ke   uterne-ketye-nge
       child   3SGS shade-LOC   lie.down-**DO.UPWARDS**-PC sun/heat-AVER-ABL
       'The child lay down from shade to shade while going upwards lest (he
       suffer from) the hot sun.' (i.e. the child is climbing a hill and keeps
       getting tired out from heat and exertion.)

Tunbridge (1988) describes similar types of affixes with a similar range of features in Adnyamathanha, a language also spoken in central Australia. Adnyamathanha displays ten affixes, each one encoding motion and a number of other semantic features found in Mparntwe Arrernte, but also in Cavineňa. These semantic features include a particular temporal relation between the two events involved, and a deictic orientation for the added motion event. This is illustrated with the examples in (43) below. The affix -*vara*-, in (43a) marks a motion event which occurs prior to the verb's event and is

directed away from the speaker. It contrasts with the suffix *-mana-* in (43b), which encodes prior motion directed toward the speaker, and *-wandha-* in (43c) which encodes motion directed away from the speaker but occurring subsequently to the verb's event.

(43)   **Adnyamathanha** (Tunbridge, 1988: 270-274)
    a. anha-nga=idla   wandi-***vara***-ndy-adna=angu
       there-AT=EMPH   camp-**GO AND**-PROB-3PLNOM=CONF
       'The would go and camp there.'

    b. mai   ngarlku-***mana***-angg-athu
       food eat-**COME AND**-PERF-1SG-ERG
       'I came and ate the food.'

    c. artu-nga   veldha   marli-***wandha***-anggu
       woman-ERG   clothes wash-**AND LEAVE**-PERF
       'The woman washed the clothes and cleared off.'

Adnyamathanha AM affixes may also provide information about the aspectual contour of the event lexicalised by their host verb. Thus, the language has a number of affixes which also specify whether the event lexicalised by the verb occurs once, repetitively or continuously over the duration of the AM. The affixes in (44) all encode a motion event concomitant to that expressed by the verb. The affixes *-ndhena-* and *-nali-* incorporate ventive deixis, while *-nangga-* incorporates itive deixis. Each also aspectually specifies the events of the verb as punctual, continuous or iterative. In (44a), the event lexicalised by the verb *ngarlku* 'to eat' is understood to have happened only once during the motion event. The event described by the verb *witi* 'to pierce' in (44b) is marked as occurring continuously over the duration of the motion event. Finally, the event of sitting/ staying in (44c) occurs repetitively over the course of the motion event.

(44) a. mai   ngarlku-**ndhena**-k-alpurla
         food eat-**ONCE COMING**-NARR-1PL-ERG
         'We stopped and ate once on the way home.'

      b. yarta   veni witi-**nali**-angg-alu
         ground   very pierce-**CONT COMING**-PERF-3SG-ERG
         'It poked into the ground all the way to here.'

      c. ika-**nangga**-k-adna
         sit-**GO ALONG**-NARR-3PL NOM
         'They stayed one night in once place, another elsewhere, and so on, as they travelled.'

Quite interestingly, Adnyamathanha affixes may include some modal information in addition to the motion event and its properties. For example, the affix *-vara-* also encodes the speaker's negative opinion of the performed event. This is shown in (45) below.

(45) a. wangngu-*vara*-angg-alu-wa
           tell-**GO AND**-PERF-3SG-ERG-3SG.ACC
           'He went and told her (he shouldn't have).

4.3. Atsuwegi: North-America

Talmy (2000: 123) describes affixes with AM meanings occurring in Atsuwegi, a Palaihnihan language from California. Unfortunately, he does not provide any examples or detail about the form of these affixes, and succinctly defines the range of semantic features that each encodes. Atsuwegi belongs to a language family distinct from the three languages discussed above, and is spoken in a different region. Interestingly, its AM affixes incorporate the same basic range of semantic features as those found in other languages.

According to Talmy, ten AM affixes are found in Atsuwegi. They differ, like the affixes described in previous sections, with respect to the time relation they specify between the verb's event and the added motion event. Hence, these affixes either encode motion which occurs prior to the event, e.g. 'go and V', or motion which is concomitant to the verb's event. Affixes of concomitant motion additionally contrast in the deictic orientation they mark. Thus an affix with the semantics 'go Ving along' contrasts with another one encoding 'come Ving along'. Atsuwegi affixes may provide additional information about the motion event, such as its purpose or add a comitative component to it. Talmy describes an affix whose meaning is 'Ving going to meet someone', and another translated as 'V going along with someone'.

4.4. Summary

As already stated, the aim of the above description is not to construct a typology of I-AM systems. However, the overview shows that affixes of AM encode a similar nucleus of semantic features and display some common properties. Given that these occur across languages that are genetically and geographically unrelated, they can be assumed to be basic inherent features and properties of I-AM. Their inherent features, which contrast with D-AM, are listed below:

(i)   I-AM markers each conventionally encode a contrastive bundle of information about the motion component.

(ii)   I-AM affixes are rigidly rather than consistently associated with a specific time relation; either precedence, concomitance or subsequence.

(iii)   In I-AM, the figure of motion might coincide or not with the main verb's subject. However, the identity of the figure is fixed by distinct affixes, rather than contextually derived.

(iv)   I-AM systems involve more refined semantic oppositions between markers, including aspect and manner specifications, or information about the outcome of the motion event.

(v)   I-AM may occur with motion verbs, including those lexicalising an orientation or direction (except deictic ones).

5. Comparative perspective

Overall, the contrasts between D-AM and I-AM are not major. Both represent non-verbal strategies for framing a verb's event with respect to a motion co-event. D-AM can even be considered to be a subpart of I-AM: it fulfils the same role as I-AM affixes with deictic path specifications, and attributes a similar array of features to the motion co-event. This overlap is not surprising since many I-AM affixes develop from verbs which originally express a deictic direction (Tunbridge, 1988; Austin, 1989; Guillaume, 2006). Guillaume (2006), for instance, shows that the two affixes *-diru* and *-eti*, respectively encoding the AM 'go permanently' and 'come permanently' in Cavineňa, are grammaticalised forms of two verbs expressing the same deictic motion: *diru* 'to go permanently' and *jeti* 'to come permanently'. For Adnyamathanha, Tunbridge (1988) proposes that the AM affix *-na-* expressing motion towards the speaker is derived from the deictic motion verb *yana* 'to come'. This affix is also found incorporated in a few other AM affixes, such as *-mana*, which encodes prior ventive motion 'come and', *-nali-* 'continuously coming' or *-ndhena-* 'once coming'.

The fact that I-AM markers are paired with fixed semantic meanings while D-AM have meanings which vary depending on the pragmatic context and semantics of the verb is nevertheless analytically significant. A simple explanation can be provided to explain the differences relating to the particular path shape contributed by the motion co-event. If I-AM markers derive from lexical items, such as verbs, an element whose meaning contribution is equivalent to 'to return' is more likely to grammaticalize into an affix encoding a return-shaped path than one whose meaning is 'to go' or 'to come'. On the other hand, for deictic directionals, which primarily express a simple deictic path, return-shaped path interpretations have to be derived pragmatically. The differences relating to time relations, identity of the figure and the verb they can modify, on the other hand, cannot be accounted for in the same way. Here, I tentatively propose that differences between I-AM and D-AM highlighted in the previous sections reflect their different stages of grammaticalization and semantic reanalysis. While I-AM forms are fully grammaticalized, D-AM seems to be at an earlier stage of the process. In other words, the most prototypical systems of I-AM and D-AM represent two different points of the same spectrum. According to this account, the pragmatic variations found in D-AM contexts are therefore due to the fact that deictic directionals used to mark the motion co-event are not yet fully reanalysed as functional markers of AM and not yet paired with fixed meanings. However, deictic directional elements occur recurrently in particular contexts, in which they are paired with consistent pragmatic inferences. These consistent inferences may be cancelled if not available in a specific context, and replaced by others more relevant. This hypothesis is compatible with the view that semantic change and the construction of new meanings for a particular linguistic unit is strongly driven by pragmatics (Traugott & Dasher, 2002).

If the grammaticalization hypothesis presented above is correct, it should be possible to find AM systems that display defining properties of both I-AM and D-AM. Two languages seem to fit this description: Yidiɲ a Pama-Nyungan language of Queensland Australia, and Lowland Chontal, a Mayan language from Mexico. Yidiɲ (Dixon, 1977) displays two 'aspectual' affixes — *ŋaliŋ* and *ŋadan* and their phonological allomorphs — indicating AM directed toward or away from the deictic centre.

(46)   **Yidiɲ** (Australia; Dixon, 1977)
         a. yagalḏida: ŋayu wula***ɲaliŋ*** ŋuŋgu
            'I'll go and die there in Yagadyida.'

         b. ɲundu:ba   ḍambu:l wuna***ɲadan***   yiŋgu
            'You two come and sleep here!'

Like D-AM markers, the two affixes can trigger concomitant or precedent time relations depending on context. Examples where the two markers involve concomitant relation between the time of the motion co-event and the time of the verb's event are provided in (47) and (48).

(47)   bana   ŋalal   ḍuŋga***ɲali:n***a / bundu
         water-ABS   big-ABS   run-**GOING**-PURP dilly-bag-ABS

         ḍuŋga***ɲada:ɲ*** /   gangul:l /   ginda:ḍa   /   buruḍu:r /
         run-**COMING**-PAST   grey wallaby-ABS cassowary-ABS   pademelon-ABS
         '[The water rose and] as a result lots of water went rushing [into the camp]; [then] the dilly-bag, the grey wallaby, the cassowary and the pademelon came running [out of the camp, fleeing from the water].'

(48)   bana   bayi***:ldaɲ***u
         water-ABS   emerge-**COMING**-PST
         '[During a volcanic eruption the ground split and] water came [rushing] out.'

The two verbs involved in the previous examples, and which are associated with concomitant motion, are both motion verbs. Example (49) below shows that motion verbs do not necessarily trigger this particular relation. There the verb for 'to emerge' is modified by the 'going' affix, and the motion event is interpreted to be prior to the verb's event.

(49)   ŋaɲḍi   bulmba:gu galiɲa:lna   / bayi***:lin***a
         we-SA   camp-ALL go-COMIT-PURP   emerge-**GOING**-PURP
         'We must take [the women] to the camp, [we must] go so that we emerge [from the bush] at the people ['s camp].'

In fact, example (49) highlights a property of these Yidiɲ affixes which is more typical of I-AM: they can express precedent or subsequent motion even with verbs already encoding motion and orientation. Another similarity these morphemes have with I-AM affixes is that they seem to be part of a system involving more complex AM contrasts. Thus, Dixon (1981) describes another AM suffix -:n-bidj-n used with verbs of posture and the verb of motion 'to fall down' to express that the event or state referred to occurs in various spatial locations. An example is provided in (50).

(50) ŋaɳɖi   gindanuyi   burgiŋ   /miɲa:gu
      we-SA   moon-COMIT-ABS walkabout-PRES animal-DAT

      wurba:ɖiŋ   /   miɲam   ŋaɳɖi   gadaŋ
      look.for-PRES   animal-ABL   we-SA   come-PRES

      ɲinaŋadaŋ /   wuna:**nbidj**   wurmba
      sit-COMING-PRES lie.down-**:NBIDJ**-PRES   asleep-ABL

      wunaŋ
      lie down-PRES
      'We go walkabout by moonlight, looking for animals. We come home
      after [hunting] animals, come to stay at home, lie down **anywhere**, lie
      down sleeping.'

Lowland Chontal (O'Connor, 2007) displays four I-AM suffixes, all encoding some
kind of deictic information. O'Connor describes them as markers of AM (which
according to the dichotomy assumed here would correspond to I-AM) but they also
display some canonical properties of D-AM. Two markers encode an additional motion,
deictically directed away from the deictic centre. The main distinction between the two
seems to be with the point of the path of motion they deictically anchor. The first one,
the andative, is translated as 'to leave here and do V', while the second one, the
dislocative, is translated as 'to go there and do V'. The andative seems therefore to be
bounded at the start of the path, while the dislocative seems to presuppose that the event
described by the verb will occur in a location distinct from the deictic centre, but no
departure.

(51) **Lowland Chontal** (Mexico; O'Connor, 2007)
      a. layx'api   pang-***ix***-pa   Estados Unidos
         my.sister live-**AND**-PFV.SG states   united
         'My sister went and lived in the US.'

      b. Jaape   ay-'ma   jo   k'incho-***ta***   jaape.
         Where   depart-IMPRF.SG or   gather.firewood-**DLOC**.SG where
         'He doesn't go anywhere, not to go and fetch firewood somewhere.'

Those affixes cannot occur with motion, which is a feature more characteristic of
D-AM.

The language has another pair of affixes described as markers of ventive AM, the
venitive and the cislocative. The distinction between the two seems to be with the verbs
that they can modify. The cislocative is restricted to a small class of deictic verbs, while
the venitive applies to most verbs, even motion verbs. Both markers always involve a
concomitant relation between the events described. Two examples are provided below.

(52) mu-***ñay***-wa   sage pa'-na-pa'   sajpe.
      sink-**VEN**-PROG.SG   3S   come-TERM-PFV.PL 3P
      'Here he comes descending, here they come.'

(53)   joypa   cho-**lyu**-pa   la'i   ma-k'e-ta   sa=yma'.
        already rise-**CLOC**-PFV.SG   bread   cook-CAUS-DLOC.SG DEM=2S.AGT
        'Once the bread has risen, you go off and bake it (in the local oven).'

The examples provided by O'Connor for the venitive marker all involve motion verbs, but assuming, as she claims, that it occurs also with non-motion verbs to encode a concomitant motion co-event, it seems to belong to the I-AM category. The cislocative, however, displays the main features of deictic directionals, and does not seem to encode AM. Lowland Chontal, therefore, shows that elements involved in a similar system may be on different paths of grammaticalization into AM. Some, such as the cislocative, may even simply be deictic directionals.

6. Conclusion

This small survey has shown that in addition to their primary function as ventive and itive path markers, deictic directionals may also be used as a non-verbal strategy to encode motion co-events. The relation between deictic directionals and Associated Motion is found in a number of African languages, where it presents approximately similar properties. It is not yet clear how widespread the phenomenon is, as this is work in progress. According to research so far it seems to be quite geographically concentrated. Although contact might play an important role in its diffusion, the phenomenon is similar to the type of AM reported in Australian and American languages, and might even be considered a subtype of AM, representing a different stage of grammaticalization. The similarity between the two categories alternatively points toward a cross-linguistic tendency for deictic path encoding elements to grammaticalize into markers of AM, a tendency which may develop from their function of locating or framing events in relation to the speech participants. It also shows that AM might not be a remote phenomenon, or just an areal feature of Australian and Amerindian languages, but a cross-linguistic strategy to package multiple events on a par with multi-clausal constructions (subordination, coordination, clause-chaining), Serial Verb Constructions or verb-compounding.

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