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REMARKS ON THE HISTORY OF THE INDO-EUROPEAN INFINITIVE

DOROTHY DISTERHEFT

1. INTRODUCTION

With the exception of Indo-Iranian (IIr) and Celtic all historical Indo-European (IE) subgroups have a morphologically distinct infinitive. However, no single proto-form can be reconstructed for them — only a wide array of action nouns. A good deal has been written about the development of the infinitive, almost all from a morphological perspective. But the evolution of a single infinitive from a large number of Proto-Indo-European (PIE) action nouns is primarily a syntactic development involving not only an expansion in the number of clause types that use infinitive as embedded predicate but also change in the structure of the infinitive clause itself (i.e. expansion of types of subject/object occurrence), change in object case, and word order shifts. My aim here is to identify archaic features, both morphological and syntactic, of attested IE languages which will give a clearer picture of what nonfinite subordinating strategies were used in certain areas of the late PIE language community. This discussion differs from past syntactic studies (e.g. those of Hahn 1950, Miller 1974, Ard 1975) which focus on embedded structures of a further-developed type (e.g. those where subject-raising is involved) to reconstruct earlier stages of infinitival subordination. I will argue here that under certain conditions the action noun was indeterminately a noun or the predicate of a subordinate clause. Reanalysis as an infinitive resulted in a complete shift in most languages to part of the verbal system.

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The data presented here are from the two language groups, IIr and Celtic,¹ that preserve several IE action nouns as infinitives. I conclude that Old Irish (OIr) has subordinate clauses very close to what PIE had, while the Rigvedic (RV) period of Sanskrit has innovated from purely nominal status; Avestan (Av), representing Old Iranian, also shows traces of earlier stages even though it has standardized object case selection which was variant in IIr. Other topics like the extent to which morphology and syntax are connected and what conditions were necessary to allow incipient infinitive analyses will be explored. I will also sketch the morphological and syntactic consequences of this reanalysis and compare them with other IE languages which have more developed infinitive clauses.

2. INDO-IRANIAN AND CELTIC

The infinitives of RV and Av are oblique cases of productive action nouns with the only exceptions being RV *-dhyai* and Av *-dyāi* (<IIr **-dhyāi*), RV *-sani* and *-tavāi* (*u*). **-dhyāi* is morphologically obscure and not to be derived from any IE nominal paradigm,² while RV *-sani* is the locative singular of an extended heteroclite stem (*-sar/-san-*; for morphological details see Benveniste 1935b: Chapter 1) which, though attested in other IE

¹ My description of Celtic is based upon Old Irish which is the best attested of the older languages in that group. Traditional descriptions of these languages tend to take the position that the verbal noun is not an infinitive (e.g. Thurneysen 1946: 455, Dillon 1955: 112 f.); in this discussion I show that in certain clause types infinitival status should be assigned to some Old Irish structures.

² But cf. arguments like those by Bartholomae 1890, Schwyzler 1953/I: 809 which try to match **-dhyāi* with the Greek middle infinitive *-sthai*. This correspondence is untenable on phonological grounds: IIr **-dhy-* corresponds to Gk *-ss-* (Benveniste 1935b: 208). I have discussed elsewhere (Disterheft 1980: 34–40) earlier claims, notably by Benveniste 1935a: Chapter 2, that **-dhyāi* is a medio-passive infinitive. His two criteria are: 1. if the infinitive has the same meaning as the finite medio-passive, it has the same voice as well; 2. if the finite paradigms are predominantly middle or passive the infinitive is likewise middle. My examination of the data upon which Benveniste's claim is based do not support his argument: while out of a total of 33 verbal stems, 8 are exclusively and 4 are predominantly middle, 7 appear equally often in both active and middle, 11 are infrequently middle, and 3 are exclusively active. Since middle voice does not change the marking of agent's and patient's relationship to the predicate, it is often difficult to infer that middle is the voice to be assigned to the predicate unless it is obvious from the meaning of the verbal stem or from the rest of the sentence.

languages, is no longer used nominally in Indic. *-tavāi* (*u*) is, according to Thurneysen 1908, derived from *-tave* (dative *-tu-* stem).³ RV and Av most commonly use dative, accusative, and locative cases of **-tu-*, **-ti-*, **-as-*, root, and various extended heteroclite stems. OIr verbal nouns (the term for action nouns in traditional Celtic grammar) reconstruct to basically the same inventory, though some restructuring has taken place. Dative and accusative OIr verbal nouns appear in clauses similar to those of IIr even though they are without exception members of nominal paradigms.

Since most IIr infinitives and all OIr verbal nouns are morphologically identical to nouns, in certain subordinate clauses some dative and accusative action nouns may be interpreted as either subordinate predicates or simple NPs. This problem of analysis has certainly been recognized; differentiation of substantives from infinitives has been an important theme in previous research with emphasis placed on morphological factors or object case selection (for literature see Disterheft 1980: 28–34). Here I shall focus on the syntactic structure of clauses in which these action nouns appear in order to determine if they are simple nouns or predicates of subordinate clauses. Past studies have depended upon object case selection as the criterion for infinitivehood: if object is the same case as that of finite verb (usually accusative) the analysis of the passage in question is infinitival. Conversely, if the object (or subject) is genitive, the form is nominal. It is indeed the case that genitive agent/patient marking is standard with action nouns as is accusative with “real” infinitives; but when we are dealing with grammars that have transitional forms — as the RV most definitely is to judge by its morphology — the situation is not so well-defined. It can be argued that agent/patient marking is not the only criterion. For instance, the infinitive is predicate in sentences that are mildly imperatival and almost always have accusative object. But in (1) (where the infinitive is the locative of an extended heteroclite stem, *-tar-*), the object of the infinitive is genitive even though finite forms of *dhṛ-* never select that case.

³Thurneysen 1908 suggested that *-tavāi* with its anomalous second word accent is derived from *-tave* (pre-Vedic **-tavai*) followed by the particle *vai*: **-tavai vai* then haplogized to its historical form. Klein 1978: 164–7 agreed on most points with Thurneysen, adding that *u* was added to the metrically incorrect line that resulted from the haplogy. He demonstrated not only that *-tavāi* is used in the same syntactic and metrical collocations as *-tave*, but also that it appears in slightly younger texts.

- (1) *sá . . . bráhmanāspátir druhá hañtá mahá ṛtasya dhartári*
 this Brahmanāspati Lie slayer great Truth uphold
 nom nom gen nom gen gen inf
 (II. 23.17)

‘May this Brahmanāspati, the slayer of the Lie. uphold the great Truth.’

Thus we see that the single feature of object case selection is inadequate for purposes of defining infinitives, as Renou 1954 has also recognized. I propose here that more properties of the clause must be used to define infinitive status, at least in the transitional infinitive grammars of IIr and Celtic. A more reliable approach is to include the treatment of subordinate subject:⁴ if it has the same properties that subordinate infinitive subject does in languages with morphologically separate infinitives, the action noun in question should be considered infinitival. Major processes which subjects of infinitives undergo are:

- a. equivalent noun phrase deletion;
- b. raising to object;
- c. raising to subject.

When subordinate subject is not coreferent with a main clause NP we also find:

- d. overt subject in dative or accusative case.

In 2.1–2.3 the features of purpose clauses and verb complements in RV, Av, and OIr will be described and then compared to simple object/oblique case nouns. Action nouns which are indeterminately infinitives/substantives will also be introduced and contrasted with forms known to be infinitives.

2.1 INDIC. The nonfinite purpose clause in RV uses an infinitive as predicate with no conjunction introducing it. Subject is either deleted by coreference with an NP in the main clause (subject, direct object, indirect object, possessive, prepositional phrase) or is an overt dative. In (2), the *-dhyai* infinitive has accusative

⁴ Sentences with an infinitive subject like Lat *errare humanum est* do not occur in languages with nominally associated forms. Sentential subjects with an infinitive typically appear in grammars where the infinitive has been separated from the nominal paradigm for so long that it retains no paradigmatic association, such as case marking, which would keep oblique cases from appearing in subject slots.

object with subject deleted by coreference with main clause subject.

- (2) *tā vigrām dhaithe jaṭhāram prṇādhyai* (VI. 67.7)
 DEM strong take stomach fill
 nom du acc 2 du imv acc inf
 'You both should take the strong one in order to fill your stomach.'

In (3) the *-tavāi (u)* infinitive has subject deleted by coreference with the object of the main clause verb. Its dative object is common in this clause type.

- (3) *brahmāṇa indram mahāyaṅto arkāir āvardhayann*
 Brahman Indra magnifying songs they-have-strengthened
 nom acc nom pl instr
āhaye hāntavā u (V. 31.4)
 snake kill
 dat inf
 'The magnifying Brahman has strengthened Indra with songs so that (he) would slay the snake.'

Even though RV has no morphological voice distinction, passivization is indicated in all clause types by marking patient as subject. (4) has an infinitive whose subject is deleted by coreference with matrix indirect object.

- (4) *sā na ā vaha . . . rayīm . . . iṣayādhyai* (VI. 64.4)
 DEM us P bring wealth strengthen
 nom sg encl 2 sg imv acc inf
 'Bring wealth to us . . . that (we) may be strengthened.'

Nominal infinitives are predicates in clauses identical to the non-nominal ones of (2)–(4). (5) *ūtāye* is a member of a paradigm. (dative *-ti-* stem) attested in most cases of both singular and plural. It is listed in Grassmann's *Wörterbuch zum Rigveda* (1873) only under the noun *ūti-* 'help'. However, this dative action noun is used as an infinitival predicate in an embedded clause (subject deleted by coreference with matrix object, accusative object):

- (5) *evā vasiṣṭha īndram ūtāye nṛṇ ... grṇāti* (VII. 26.5)
 therefore Vasishtha Indra help men he-praises
 nom acc inf acc
 'Therefore, Vasishtha praises Indra in order that (he) help the men.'

vipṛccham 'inquire' (6) is the accusative of a root noun in a purpose clause and, like *iṣayāddhyai* in (4), is the only constituent in its clause to appear in the sentence. The root *prcḥ-* is rarely nominalized and is found only in the dative and accusative cases; in this passage preverb *vi* + accusative action noun can only be interpreted infinitivally.

- (6) *ūpo emi cikitūṣo vipṛccham* (VII. 86.3)
 towards I-go wise-ones inquire
 acc inf
 'I approach the wise ones in order to inquire.'

Likewise the dative of a productive stem may also be predicate in a clause where it is the only constituent. *śubhé* 'shine' (7) is the dative of a root noun which is attested in a full paradigm in the singular.

- (7) *samānām aṅgy āñjate śubhé kām*
 same ointment they-anoint-themselves shine PT
 acc acc inf (VII. 57.3)
 'They anoint themselves in the same ointment in order to shine.'

(8) and (9) illustrate dative subject with dative infinitives formed on root stems: *vṛdhé* (8) is intransitive; *dṛśé* (9) has accusative object. Like *ūtāye* in (5), *vṛdhé* is listed in the dictionary under the nominal paradigm. *dṛśé*, however, is found as an infinitive under the verbal root *dṛś-* and has no extant nominal paradigm.

- (8) *abhi gandharvām atṛṇad abudhnēsu rājāḥsv*
 to Gandharva he-crossed bottomless skies
 acc loc loc
ā īndro brahmābhya id vṛdhé (VIII. 77.5)
 P Indra Brahmans PT prosper
 nom dat inf

'Indra crossed to the Gandharva in the bottomless skies in order that the Brahmans might prosper.'

- (9) *úd u tyám jātavedasam devám vahan̄ti*
 there PT this Jatavedasa god they-carry
 acc acc acc

ketávaḥ dṛśé víśvāya sūryam̄ (I. 50.1)

rays see all sun
 nom inf dat acc

'The rays carry the god Jatavedasa there in order that all may see the sun.'

In the RV, infinitive complements are formed to verbs whose subjects control equi deletion of infinitive subject.⁵ (10) has the dative *saṁdṛśe* 'see' with accusative object.

- (10) *kavīṁ icchāmi saṁdṛśe sumedhāḥ* (III. 38.1)
 poets I-wish see wise-one
 acc inf nom
 'I, the wise one, wish to see the poets.'

In (11) the complement infinitive is an accusative which also takes accusative object:

- (11) *śakéma vājīno yāman̄* (II. 5.1)
 may-we-be-able war-horses lead
 opt acc inf
 'May we be able to lead the war horses.'

(12) has accusative *ārābham* 'be allied with' as an intransitive:

- (12) *ná pañcābhir dśābhir vaṣṭy ārābham* (V. 34.5)
 NEG five ten he-wishes be-allied
 instr instr inf
 'He does not wish to be allied with five (or) with ten (men).'

⁵ RV verbal roots in this category are *vaś-*, *iṣ-* 'wish', *juṣ-* 'like, desire', *jñā-*, *cū-*, *vid-* 'know', *man-* 'think', *śak-*, *arh-*, *iṣ-* 'be, able', *arthaya-* 'stive', *arhs-* 'succeed'.

Complements to *wish* may also have overt, noncoreferent subject in the dative case :

- (13) *yáthā ta uśmasi iṣṭāye* (I. 30.12)
 when you we-wish hasten
 dat inf
 'when we wish that you hasten'

In the above examples illustrating purpose clauses and verb complements, a combination of features leads to the determination that these are infinitive clauses. Either the overt presence of a subject (8), (9), (13) or a dative (3) or accusative (2), (5), (9), (10), (11) object gives syntactic confirmation to analysis as infinitives. Likewise, a nonnominal infinitive such as (4) *iṣayādhyai* guarantees the same interpretation even though it is the only surface constituent of the clause. The accusatives *vip̐ccham* (6) and *ārābham* (12) are the only members of clauses after *approach* and *wish*, respectively, and thus could conceivably be analyzed as direct objects. However, they belong to prefixed stems which are attested only in infinitival cases (dative, accusative). *śubhé* (7) is the dative of a well-established paradigm in a sentence which would not make sense if analyzed noninfinitivally.

Parallel to the infinitival accusatives of (6), (11), (12) are forms that can only be interpreted as direct objects or accusatives of goal after verbs of motion. For example, in (14) *pītīm* 'drink' (accusative -*ti*- stem) expresses the goal of *yāhi* 'come' :

- (14) *ugrēṣv in nú . . . trikadrukeṣu pāhi sómam in̐dra . . .*
 powerful PT now Trikadrukas drink soma Indra
 loc loc 2 sg inv acc voc
yāhi hāribhyām sutāsyā . pītīm (II. 11.17)
 come golden-ones extract drink
 2 sg inv instr gen acc
 'Now, o Indra, . . . drink the soma among the powerful Tri-
 kadrukas . . . come with the golden ones to the drinking of the
 extract.'

Here the accusative action noun is certainly substantival : there is no evidence that a coreferential infinitive subject has been deleted and the meaning of the entire stanza mitigates against interpreting

pītm as an accusative infinitive. *yāhi... pītm* is structurally parallel to *pāhi... sōmam*. Thus, in 'drink the soma... come to the drinking' the two accusatives (the second derived from a verbal root, the first one not) are parallel to each other. Note that the constituents of (14) (accusative action noun following a verb of motion) are very close to (6) *ūpo emi... vipśccham* 'I approach in order to inquire'. In (15) the action noun (*ūtīm*, accusative -*ti*-stem) is the direct object of 'ask':

- (15) *vīṣantamasya hūmahe ūtīm* (I. 10.10)
 most-manly we-ask help
 gen acc
 'We ask the help of the most manly one.'

Dative substantives likewise appear in sentences similar to those where the dative has been analyzed as a purposive infinitive (5), (7), (8), (9). For example, the dative root noun *śubhé* (16) is identical to that of (7).

- (16) *vākṣaṃsu rukmāñ ādhi yetire śubhé* (I. 64.4)
 breasts gold upon they-bind adornment⁶
 loc acc pl dat
 'They bind the gold upon their breasts as an adornment.'

In contrast to the action nouns which are infinitival (2)–(13) or nominal (14)–(16), there is a large group of datives and accusatives whose status is difficult to establish. In addition to an infinitive interpretation, the dative forms may be analyzed as nouns expressing the goal of an action while the accusatives may be either the direct object of a transitive verb or the goal of a motion verb. For example, *śubhé* (17), unlike the infinitive of (7) or the substantive of (16), has an analysis which is indeterminate.

- (17) *śubhé kām yānti rathatārbbhir āsvaiḥ* (I. 88.2)
 glorify/glory PT they-go wagon-pulling horses
 inf dat NP instr pl instr

⁶ The difference between the gloss of *śubhé* here and in (7) is the result of changes in transitivity: *śubh-* is translated as 'shine, glow' when intransitive, but 'adore, glorify' when transitive.

dative of goal: 'They go with the wagon-pulling horses for glory.'

Purposive infinitive: 'They go with the wagon-pulling horses in order to be glorified.'

ūtāye (18) is the same action noun found in the purpose clause of (5). Here it has no object and appears after *invoke*, as does the substantive of (15).

- (18) *indrām ā huva ūtāye* (I. 111.4)
 Indra P I-invoke help
 acc dat NP/inf

Its dative case and the meaning of the entire sentence yield the following interpretations:

noun: 'I invoke Indra for help.'

infinitive: 'I invoke Indra in order that (he) might help.'

Action nouns after *wish*, *desire* likewise may be ambiguous since the RV allows both nominal and sentential objects with it. In (19) the meaning of the action noun *gātúm* can be extended from 'a going' to 'path' and cooccurs with the dative name *mānave*:

- (19) *ātrā dāsāsya námuceḥ śtro yád āvartayo*
 then demon Namuci head when you-caused-to-turn
 gen gen acc
mānave gātúm icchán (V. 30.7)
 Manu go/path desiring
 dat inf acc NP nom sg ptc

Since *gātúm* is accusative, it can be interpreted either as the object of *desire* ('at the time when you caused the head of the demon Namuci to turn, desiring a path for Manu') or its complement with dative subject ('...desiring that Manu go'). The similar clause in (13) differs from (19) by having a dative action noun which allows only a nonobjective, infinitival interpretation.

The discussion so far has shown that in the RV:

- a. Infinitives in verb complements and purpose clauses appear with both nonnominal (*-dhyai*, *-sani*, *-tavái (u)*) and nominal (datives, accusatives of productive action nouns) forms;

b. All nonnominal forms (2)—(4) have exclusively infinitival interpretations ;

c. Accusatives of productive paradigms are most often used as complements to subject-equi verbs (10)—(12) and may be analyzed indeterminately as complements to or direct objects of a finite verb (19) ;

d. Datives of productive paradigms are predominantly purposive infinitives (5), (7), (8), (9) but some are indeterminately predicates in purpose clauses or dative nouns (17), (18) ;

e. Productive accusatives and datives which are only nominal (direct object (14), (15) or dative of goal (16), respectively) preserve the earliest stage in which these had only nominal properties ;

f. Datives which are used as complements to subject-equi verbs (13) and accusatives as purposive infinitives (6) are never indeterminate because they have case marking which does not allow them to be confused with nouns in their respective positions ; they should be considered a later development than stage (e) but earlier than that of (b).

2.2. IRANIAN. The clause types and syntactic details of the Av infinitives are almost identical to the RV. The most striking difference is that accusative object has been generalized by the time that the texts were recorded (20).

(20)—(22) illustrate purpose clauses which regularly have no subordinating marker. The subjects of nonnominal *-dyāi* (IIr *-*dhyāi*) and the datives *davōi*, *anāše* are deleted by coreference with main clause subject :

(20) *kaθā ašāi druṣēm dyqm zastayō nī hīm*
 how Truth Lie I-would-place hand down it
 dat acc loc acc
mərəzdyāi θwəhyā mąθrāiš sēnghahyā ēmavaitīm sinqm dāvōi
 cast-down your words teaching powerful chasm give
 inf instr gen acc acc inf
dragvasū ā īš dvāfšəng mazdā anāše qstqs- čā (Y 44.14)
 Liars to them suffering Wise bring hostility and
 loc acc acc voc inf acc
 'How would I place the Lie in the hand of Truth in order to
 cast it down by the words of your teaching, in order to put

a powerful chasm between the Liars, in order to bring suffering and hostility to them, o Wise One?’

The only exception to the accusative object rule of the purpose clauses is one dative:

- (21) *mąθrēm spəntəm maraēta . . . uxšne xraθwe* (Vd 4.45)
 word holy they-speak increase wisdom
 acc acc sg inf dat
 ‘They speak the holy word in order to increase wisdom.’

The infinitive is passivized by promoting patient to subject. In (22) the dative infinitive with passive reading is formed from an extended heteroclite stem and has subject deleted by coreference with main clause object:

- (22) *aoi mąm staomaine stūidi yaθa*
 P me praise praise in-order-that
 acc inf 2 sg inv
mā aparaciθ saošyantō stavąn (Y 9.2)
 me future saviors they-praise
 acc nom pl nom
 ‘Praise me that I may be praised, that future saviors may praise me.’

In addition to the purpose clauses, the infinitive complements a list of subject-equi verbs which are similar to those of the RV (23), (24).⁷

- (23) *vīsaiti dim frāyrārayō* (N 19)
 he-knows him enliven
 acc inf
 ‘He knows how to enliven him.’

As in the RV, *wish* admits a complement with independent subject (accusative):

⁷ Av roots in this group are: *aeš-*, *vas-* ‘wish, desire’, *īz-* ‘be eager’, *man-* ‘think’, *vaēd-* ‘know’, *xaš(y)-* ‘be able’, *sparəz-* ‘strive’, *upa-drag-* ‘finish, succeed’.

- (24) *aṭ tōi ātrēm ahurā . . . usēmahi . . . stōi*
 then your fire Lord we-wish be
 acc voc inf

rapantē ciθrā.avanhəm (Y 34.4)

supporter brilliant-help

dat acc

'Then we wish, o Lord, that your fire . . . may be of brilliant help to your supporter.'

A morphological difference between RV and Av is that the nominal paradigms which yield the Av infinitives have undergone a certain amount of disintegration; often only a few case forms are attested for any action noun. Syntactic differences lie mainly in the confinement of object case to accusative. Still there is some evidence that Av action nouns are at times indeterminately nominal/infinitival. (25), for example, has a dative verbal abstract *frāxšnənē* 'instruct' which is ambiguously a nominal dative of goal or a passive infinitive.

- (25) *hyat-čā mōi mraoš ašəm jasō frāxšnənē* (Y 43.12)
 this and me you-say Truth you-go instruct
 acc dat acc dat inf/NP
 noun: 'This you say to me: "You go to Truth for instruction".'
 infinitive: ' . . . in order to be instructed.'

In contrast, no ambiguity can be detected with verb complements.

2.3 OLD IRISH uses both accusative and dative verbal nouns in subordinate clauses similar to the above examples. Dative verbal nouns (preceded by preposition *do* 'to'⁸) are used in purpose clauses while accusatives are predicates in complements whose subjects are either coreferential or independent (and thus overt). The OIr verbal noun appears in the rest of the grammar in many uses, most often as a simple noun: subject/object of the finite verb, oblique prepositional phrases, etc. This is due to the fact that the verbal noun is completely within the nominal paradigm and nominal

⁸ Other prepositions may also be used with the verbal noun in purpose clauses (e.g. *frī* with accusative), but these are not as numerous; for examples see Disterheft 150 f.

Complements to subject-equi verbs¹⁰ take the form of accusative verbal nouns (30), (31). Object marking is the same as in purpose clauses: genitive noun object (30) or proclitic possessive pronoun (31).

(30) *conicimm dígail 7 cosc neich* (Wb 20 d 6)

I-am-able punish and reprimand anyone

vn-acc vn-acc gen

'I am able to punish and reprimand anyone.'

(31) *a n-ru-n-aninraccaigestar dia a ditin- som* (Ml 62 b 21)

when he-refused God his protect PT

nom vn-acc emph

'when God refused to protect him'

Unlike the similar IIr clauses where coreference triggers mandatory subject deletion, it is optional with active but never applied to passive verbal nouns (cf. also (29)):

(32) *air ní tormenatar- som etir a*

for NEG they-thought PT at-all their

emph

n-ditin 7 an ícc (Ml 106 d 11)

protect and their save

vn-acc vn-acc

'for they did not at all think that they would be protected and saved'

That a *n-* 'their' is indeed the subject of a passive verbal noun and not the object of an active one is demonstrated by the fact that the verbal noun *ditin* paraphrases the Latin *protecti sunt* 'they were protected' in the passage which the OIr glosses: *contra ergo omnem spem Dei auxilio protecti sunt* (Ps 86) 'therefore against every hope that they would be protected by the help of God'.

Complements to *say, declare, think, decide, believe, desire* may have independent subject in the form of the *do* agent phrase:

¹⁰ These include: *do-moinethar* 'thinks', *midithir* 'decides', *ad-cobra* 'desires', *con-icc* 'is able', *dligid* 'deserves', *ro-ucc diriug* 'succeeds', *ro-laimethar* 'dares', *intinnscana* 'begins'.

- (33) *...is airi asbeir- som a epert doib* (Ml 31 b 17)
 it-is on-account- he-says PT its say to-them
 of-it emph vn-acc
 'It is on account of it he says that they say it.'

- (34) *do futhractor for n-imdibe- si* (Wb 20 c 23)
 they-desire your circumcise PT
 vn-acc emph
 'They desire that you be circumcised.'

The complements illustrated in (30)–(34) indicate that even though the accusative verbal noun is fully a member of a nominal paradigm, its use corresponds to infinitive constructions in other IE languages. OIr, like IIr, has accusative verb complements which are indeterminate: they may be either embedded complements or simple nouns. This happens in many cases when a genitive is used whose relationship to the verbal noun is unspecified. For instance, in (35) the pronoun *a n-* 'their' appears before the accusative *ic* 'save':

- (35) *ni ru frescachtar a n-ic* (Ml 26 b 25)
 NEG they-expected their save
 vn-acc

In this sentence, *a n-* is identical to the subject of *expect* and may be interpreted as a possessive modifying a substantival verbal noun: 'They did not expect their salvation.' Just as likely, it could be a subject pronoun coreferent with the main clause subject, following the pattern of (32): 'They did not expect to be saved.' This ambivalence is reflected in previous translations, such as Stokes' and Strachan's (1901: 51) as a noun versus Gagnepain's (1963: 84) as a passive infinitive. Compare (36) without the ambivalent pronoun:

- (36) *conn- gestais huili taidchor*
 so-that they-would-pray all release
 nom vn-acc
as indoiri ... (Ml 131 d 13)
 from captivity
 dat

where the verbal noun may be analyzed as direct object of 'pray' ('so that they all should pray for release from captivity') or as its complement ('...to be released from captivity'). Again past translations have been both nominal (Stokes and Strachan 451) and passive infinitival (Gagnepain 83).

Purpose clauses are not liable to so much indeterminacy as the above accusative complements, but double readings do sometimes obtain. In (37) the enclitic genitive pronoun preceding the verbal noun may be read as either the subject of a passive infinitival verbal noun or as the object of a nominal one.

- (37) *an- as torbe do sochudi dia n-icc* (Wb 11 c 6)
 what it-is profit to multitude for-their save
 nom dat vn-dat
 noun: 'What is profit to the multitude for saving them?'
 infinitive: 'What is profit to the multitude that they be saved?'

(38) is analyzable as either a passive complement with nonapplication of equi, as an active complement with a proclitic object, or as a dative of goal with possessive pronoun:

- (38) ...*condárbais frecndarcus du fortachtae dunaib*
 so-that-they- presence your help to-the
 may-show gen
trebaib so dia soirad ... (Ml 101 c 7)
 tribes PT to-their deliver
 dat emph vn-dat
 noun: 'in order that you may show the presence of your help to these tribes for their deliverance'
 infinitive: '...in order that they be delivered'; 'in order to deliver them'

2.4 As mentioned in the Introduction, the morphological similarity between IIr and Celtic is preserved nowhere else in IE and can only be considered an archaism. We have seen that purpose clauses are formed in the same way: they are introduced by no conjunction and subject is deleted by coreference with a main clause NP. Use of independent, overt subject is found only in RV with no trace in Av; OIr uses a prepositional agent phrase which

is probably a later innovation. In RV, all forms of infinitives may be used, but datives do predominate. In Av, assignment of infinitive form according to clause type no longer obtains. In OIr, dative verbal nouns (always with preposition *do*) are predicate in non-finite purpose clauses. Object case of a purposive infinitive need not be the same as that of finite verbs: RV object is most often accusative, but dative and genitive are found in substantial numbers. Av, which has leveled infinitive object to accusative, preserves one or two datives. OIr maintains its strict adherence to genitive object of verbal nouns. I suggest that on the basis of these languages, late stages of PIE used the infinitive as predicate in purpose clauses with the following features:

- a. clause has no subordinator;
- b. subject is optionally deleted by coreference with a main clause NP;
- c. object is usually not marked like that of the finite verb, but is dative or genitive;
- d. infinitive has dative case (at least in earlier stages).

The discussion of verb complements so far has been limited to complements of verbs whose subjects control coreference with lower subject and to complements that have an independent, overt subject. Other classes of verb complements (object-equi and subject-raising, to be discussed in §3) simply do not show syntactic parallels nor do they have indeterminate analyses. Verbs whose subjects control coreference in IIr and Celtic are *wish, like, know, think, decide, be able, succeed, strive, finish, begin*, etc. When an object appears, it is always accusative in Av and most often so in the RV; OIr adheres to its genitive object (for accusative, see (48) (49) below). While Av does not show a preference for any specific infinitive class or case, RV has a predominance of accusatives here and OIr limits this clause type to accusative verbal nouns. Due to the shared features of

- a. accusative infinitive,
- b. genitive or accusative object,
- c. similarity in range of main clause verbs

it appears that complement to at least several of the just-mentioned list of subject-equi verbs may have had sentential objects with infinitive in late PIE.

The two clause types for which I have suggested a PIE date share an additional feature: they are subject to a certain amount

of indeterminacy in each of the languages by virtue of the fact that they are morphologically identical to nouns which occur in the same slot in the sentence. They are often to be analyzed as either accusative direct objects, accusatives after motion verbs, or datives of goal. One additional type does seem to be reconstructible for IIr but not for other branches: complements to *wish* with noncoreferent, overt subject. The fact that this type is also subject to indeterminacy indicates an early development, but probably only within the IIr period. In contrast, purpose clauses with overt subject (and others discussed in §3 below) are never indeterminate. In OIr, the peculiar patterning of subject in both verb complements and purpose clauses lends itself to multiple analyses.

3. BEYOND INDETERMINACY

In addition to the structures discussed above, there are complement types in each of these languages that under no circumstances can be confused with simple NPs. Furthermore, a lack of similarity in their syntactic features indicates that they have developed independently. Object-equi clauses are one such type: both RV (39) and Av (40) have such structures.

(39) *sá im mamāda máhi kárma kártave* (II. 22.1)

DEM him he-has great work do
nom acc inspired acc acc inf
'He has inspired him to do great work.'

(40) *vā naēčīš dārašt itē* (Y 43.13)

you no-one he-compelled go
acc pl nom inf
'No one compelled you to go.'

It is, however, unlikely that this structure developed before the IIr period: the inventory of main clause verbs¹¹ does not match; unambiguous datives are used as infinitives here; OIr does not have this strategy.

¹¹ Verbs whose objects control equi deletion are: RV *i-* 'entreat', *mand-* 'inspire', *mah-* 'grant', *vr-* 'choose', *hu-* 'call, invite', *cil-* 'perceive', *av-* 'help'; Av *kav-* 'promise', *nī-stā-* 'command', *daxš-*, *xšā-*, *sqi-* 'teach', *hak-* 'incite', *darš-* 'compel, dare', *yam-* 'allow'.

Av raises infinitive subject to object of *man-* 'think' and *m rav-* 'say' by marking it as main clause object with accusative case:

- (41) *aṭ* *θwā mēnghī* *paourvīm mazdā yāzūm*
 and you I-thought first Wise last
 acc acc voc acc

stōi manarhā (Y 31.8)

be mind

inf instr

'And with my mind, o Wise One, I have thought you to be the first (and) the last.'

RV has no strategies which match Av subject-to-object raising. By the time of Classical Sanskrit the infinitive only has one form, *-tum*, which has become disassociated from the nominal paradigm since the Vedic period when its dative' (*-tave*), along with other stems, was used predominantly in the same function. Thus verb complements (42) as well as purpose clauses (43) in the later period regularly have the same distinct infinitive form (examples from (Cardona 1976 : 149).

- (42) *kartum icchati devadattaḥ*
 make he-wants Devadatta
 inf nom
 'Devadatta wants to make ...'

- (43) *bhoktum vrajati devadattaḥ*
 eat he-goes Devadatta
 inf nom
 'Devadatta is going in order to eat.'

However, Classical Sanskrit can still use the dative action noun in a phrase equivalent to (43):

- (44) *bhojanāya vrajati devadattaḥ*
 eat he-goes Devadatta
 dat nom

Use of the same dative thematic action noun had earlier been admitted in the RV as an infinitive, as the accusative object in (45) makes clear:

- (45) *ábodhi* *hótā* *yajáthāya deván* (V. 1.2)
 he-has-awakened sacrificer worship gods
 nom inf acc

'The sacrificer has awakened in order to worship the gods.'

-āya had obviously been part of the pattern of subordination which allowed infinitival purpose clauses to use any dative action noun. However, once *-tum* became dominant, *-āya* then resumed its exclusive function as action noun stripped of former infinitival properties.

In OIr the subject of the dative verbal noun may be raised to object of *think*, *know*, and *hear* (46). Here the lower subject has not only accusative case marking but has been moved to matrix object position preceding verbal noun.

- (46) *ma-ni* *fessed* *comdidnad do*
 if NEG it-knew consolation to
 acc

thiarmoracht ind uilc (Ml 87 d 4)

follow the evil

vn-dat gen

'if it did not know that consolation follows evil'

Verbal nouns in subject-raising environments (46) differ in one important aspect from the complements to subject-equi verbs (30)—(32): dative case marking precludes interpretation as direct object. This, coupled with the strong infinitival characteristics of subject-raising, is an important step away from nominal status. The dative verbal noun, as an unambiguous embedded predicate, appears to be expanding its use during the OIr period: from only subject-raising verbs to include those with coreferential subject. A few examples are found in which the dative verbal noun complements subject-equi verbs: *be able*, *desire*, *love*. Note that for the first time, object of the verbal noun is a preposed accusative:

- (47) . . . *ní cumcat* *aithirgi* *ndo denum* (Ml 23 a 5)
 NEG they-are-able repentance to do
 acc vn-dat

'They are not able to do repentance.'

The dative verbal noun in any type of complement is rare outside of the Milan glosses. In the glosses on OIr verse, slightly later in the period than the biblical glosses, restrictions on subject coreference loosen and use of the dative verbal noun spreads to *as-beir* in the meaning of 'tell, order' (48). Here the embedded subject is deleted by coreference with the indirect object of 'tell'. Verbal noun object is, as in (47), a preposed accusative.

- (48) *atrubairt Brenaind fria gilla a chochull*
 he-told Brendan to-the servant his cloak
 nom dat acc
do chur forro (LH 335.27)
 to put upon-them
 vn-dat
 'Brendan told his servant to put his cloak upon them.'

(48) has replaced an older pattern where, after *tell, order, allow* followed by prepositional phrase, the verbal noun was accusative with postposed genitive object:

- (49) *intan asnindet dia 7 forcongair du dóinib*
 when he-speaks God and he-orders to people
 nom dat
comallad a firinne . . . (Ml 94 b 3)
 fulfill his righteousness
 vn-acc gen
 'when God speaks and orders the people to fulfill his righteousness'

(46)–(48), then, show that in the later OIr period a tendency to avoid indeterminacy was starting: dative verbal nouns could have subject raised to main clause object (46), could complement subject-equi verbs (47), or *tell* (48). RV and Av have developed away from widespread indeterminacy also with object-equi structures (39), (40) and Av has raising-to-object (41). While RV still prefers dative infinitives in purpose clauses, other forms can appear in these clause types, e.g. *-dhyai* (2), (4), *-tardí (u)* (3), and accusatives (6) in purpose clauses, datives (10) in complements. But by the classical period, Sanskrit has a morphologically separate form, *-tum*. Av has no trace of the earlier infinitive case assignment and allows any infinitive form to be used in all clauses.

4. OTHER INDO-EUROPEAN LANGUAGES

Other Indo-European languages presumably went through a stage similar to that described above for IIr and Celtic. By the time they are attested, however, most have only one infinitive with "verbal" characteristics. This is, of course, with the exception of modern Irish, which has not developed an infinitive as a separate category. Hittite has two forms, *-anna* and *-(u)wanzi*, which have long been separated from the datives that they were formed from (Benveniste 1935b: 30 f., Kammenhuber 1954: 44 f.). *-anna* was originally assigned to verbs with ablauting stems, *-(u)wanzi* to the others. Germanic uses **-onom* (accusative *n*-stem; cf. Gothic *-an*), Baltic and Slavic have a **-ti-* form and also a supine (**-tum*) to express purpose after verbs of motion; cf. the similar Latin supine in *-um*. In separate developments, the Latin and Greek infinitives have entered the verbal system and even acquired tense and voice marking. Morphological voice distinctions were apparently not made in Proto-Italic: Latin has active *-re* (locative *s*-stem) versus passive *-ī* (dative root noun)/*-rī* (dative *s*-stem) while Oscan and Umbrian have one form from accusative **-um*. Tense marking was developed in that period by periphrasis of the appropriately tensed participle with *to be* (Leumann et al. 1972: 342). Greek on the other hand shows evidence of a more unified morphological development: *-ein* (or its dialectal reflexes; Attic-Ionic *-een* < **-esen*; cf. RV *-sani*) was assigned to present thematic stems very early. Likewise middle meaning was acquired at an early date by *-sthai* (a disputed formation; see note 2); but in Homer, active forms can still be used where medio-passive is expected (Schwyzer 1953, I: 805). In contrast, the appearance of *-nai* (dative *n*-stem), *-menai* (dative extended heteroclit), and *-men* (locative extended heteroclit) for athematic infinitives indicates that this was not standardized until much later in the individual dialects.

Returning to syntax, parallels to IIr dative object case in purpose clauses are seen in Hittite even though accusative is the standard case:

- (50) *nu SAL.MEŠ ukturiya ḫaštiyaš leššuwanzi*
 PT women bones collect
 nom dat inf

pānzi (KUB XXX 15 I 1—2)
they-go

‘The women go to the *ukturiya* to collect bones.’

Hittite’s dative object is undoubtedly inherited from the same sources as IIr. It is reasonable to assume that the late PIE transitional infinitives could mark their objects with a case that was neither nominal (genitive) nor wholly verbal (accusative).

The evolution from fewer to more clause types and the increase in verbs which are admitted to these structures are confirmed by other IE languages. Hittite preserves a syntax that reflects the verbal affiliation of *-anna/(u)wanzi*. Here more verb complement types are attested. Not only do a large inventory of subject-equi verbs unambiguously take sentential objects,¹² but three have structures whose objects control equi-deletion: *tarn-* ‘allow, let’, *watarnahh-* ‘order’, *halzāi-* ‘call’, as in

- (51) *nu namma kiēl ŠA KUR.KUR.TIM LŪ.MEŠ TEMI*
PT moreover this PT lands men message
gen gen gen
MAḪAR DUTU.ŠI uwaruanzi ŪL tarnāi (KUB XIV I
front Majesty-my come NEG he-allows Rs. 30 f.)
‘Moreover, he does not let the messengers of these lands come
before my Majesty.’

The infinitive complements three impersonal verbs (*ŪL āra-* ‘it is not right (to)’, *ŪL kiš-* ‘it is not possible (to)’, *handāi-* and its Sumerogram *SI+ŠÁ-* ‘be ordained’) with which the lower subject may either remain in the oblique case:

- (52) *nu-mu-kan apiya-ya DIŠKUR URUḪATTI EN.YA*
PT me PT then and Stormgod Hatti Lord-my
encl
piran tiyaruwanzi handāittat (KUB V 6 IV 13)
forth go it-was-ordained
inf

¹² Among them are: *šanḫ-*, *wek-*, *ilaliya-* ‘desire’, *ep-* (reflex), *zikk-*, *ŠABĀTU* ‘take, begin’, *aššanu-*, *irhāi-*, *tarup-*, *zinna-* ‘be ready, stop, finish’, *handalliya-* ‘dare’, *mat-* ‘endure’, *tarḫ-* ‘be able’, *waqqar-* ‘fall short (of)’, *karš-* ‘fail, neglect’, *ZI-* ‘intend’, *ling-* ‘be bound by oath’, *tarkumāi-* ‘announce’, *KARĀBU* ‘promise’, *memma-* ‘refuse’.

'And then it was ordained that I go forth to my Lord, the Stormgod of Hatti.'

or be raised to subject :

(53) *nu DINGIR.LUM piran tiyanna SI×SÁ-at* (KUB V 6 IV 8)

PT	god	forth	go	it-was-ordained
	nom		inf	

'The god was ordained to go forth'.

Other IE languages which are attested much later also exhibit an expansion in number of clauses with infinitive. Ard 1975 describes a shift from finite to nonfinite complementation in Old English. In the earlier period the number of such complements was small but by the later part of that period, most verb types were represented (p. 16 f.). Thus finite complements to verbs like *order*, *accuse*, *permit*, *expect*, *intend* as in

(54) *þa heht he his geferan, þæt hio sohton sumne earme þearfan*
(Ælfred, Bede, 388, 10)

'Then he ordered his companions that they seek a certain poor beggar.'

usually antedate an infinitive complement. Ard argued that the Modern English constructions which are synchronically derived via raising cannot be so diachronically. He went on to show that the nonfinite clause type cannot be derived solely from applying equi-NP deletion to a finite structure since the two types occur side by side in early Old English (p. 23). The data suggest rather that the embedded subject is copied as object of the main clause verb, pronominalized, and subsequently deleted (p. 27). Raising structures with typical NP-infinitive-NP sequences like

(55) *John believes Fred to be a plumber.*

synchronically can undergo *to-be* deletion, yielding two derived objects NPs ("predicate adjunct construction", p. 32):

(56) *John believes Fred a plumber.*

But like complements to object-equi clauses, NP-NP sequences cannot be diachronically derived from NP-infinitive-NP: they

predate raised constructions and were one of the sources of NP-infinitive-NP complements to *say* and *think*. Thus with NP-NP complements, it is not the case that one element has been moved from the embedded clause to the main clause with the rest of the complement remaining in another clause. Rather the entire content of the embedded complement which remains on the surface has been moved to the main clause and has become the surface objects of its verb (p. 40). Ard claimed that the NP-infinitive-NP pattern may possibly have arisen under Latin influence, but had difficulty explaining its spread in later English periods as due to Latin style. He noted (p. 42) that this pattern became increasingly common after *say*, *think* as case distinctions were lost and that case marking may actually have hindered their acceptance in Old English. Raising-to-subject likewise cannot be ascribed to any single change that can be described as raising in the history of English. Ard stated :

Structures which are derived via Raising-to-Subject in Modern English developed diachronically, in the main, from one or both of the following sources: 1. impersonal verbs with two arguments — an oblique NP and a sentential complement for which the oblique NP became subjectified; 2. personal verbs which occurred in structures of the correct syntactic shape

NP V nonfinite V X

but with semantic interpretation incompatible with a raising analysis, for which the semantic interpretation changed to allow a raising analysis (p. 53).

The history of Latin also indicates an expansion of complement structures: subject-equi verbs take infinitives in the earliest texts but other types of nonfinite complementation only appear later. Most Classicists agree that accusative subject of the infinitive in Latin and Greek originated in clauses after *order* (Lat *iubeo*, Gk *keleo*) (Schwyzer II: 373 f., Leumann et al. II: 353 f.; all Latin examples are taken by Hahn 1950 from Plautus and Terence):

(57) *iube hunc abire* (HT 585—6)

order him go

imv acc inf

'Order him to go.'

- (58) *thōrēksai he kéleue . . . Achaioús* (Iliad 2.11)
 arm DEM he-ordered Achaeans
 inf nom acc
 'He ordered the Achaeans to arm themselves.'

Hahn 1950 showed how verbs of perception (= object-equi verbs) very early took a sentential object consisting of a participle modifying and agreeing with the accusative object noun; thus NP(acc)-participle(acc) obtained in sentences like

- (59) *vidi et illam et hospitem complexam*
 I-saw and her and guest hug
 acc acc ptc-acc
osculantem (Mil 533—4)
 kiss
 ptc-acc
 'I saw her and the guest hugging and kissing.'

Othertimes the participle is used ambiguously :

- (60) *meminestin me gravidam?* (HT 626)
 you-remember me pregnant
 acc ptc-acc

yielding interpretation as attributive (NP-participle) :

'Do you remember me being pregnant?'

or predicative (NP-to be-participle) :

'Do you remember that I was pregnant?'

Sometimes *hear* can only have a sentential complement in which case a predicative relationship is established between the accusative NP and its modifier :

- (61) *faenus creditum audio* (Most 629)
 interest credit I-hear
 acc ptc-acc
 'I hear that it has been credited for the interest.'

Hahn then demonstrated how *sino* 'allow' and *patiar* 'suffer' are used both with infinitive :

- (62) *siquidem potes esse te puti in lepidi loci* (Poen 696)
 if you-are- be you suffer in pleasant place
 able inf dat inf loc loc
 'if you can suffer to be in a pleasant place'

or with the NP-participle construction :

- (63) *vosne ego patiar cum mendicis*
 you-PT I I-will-allow with poor
 acc pl dat pl
nuptas . . . viris? (Stich 132)
 married men
 ptc-acc dat pl
 'So shall I allow you (to be) married to poor men?'

Since no examples can be found with present participle or with nonparticipial adjectives, Hahn surmised (p. 121) that in each of the examples cited, we have not a participle but a past tense infinitive (which is formed from past participle plus *to be*) with copula deleted. Thus in

- (64) *abductam illam aegre pati* (Merc 251)
 abducted her scarcely suffer
 ptc-acc acc inf
 'to scarcely suffer her (to be) abducted'

abductam is underlyingly *abductam esse* with copula (inf *esse*) deleted, as is regular in the rest of Latin grammar. On analogy to such constructions with past infinitive, present infinitives, which are not formed periphrastically, are possible :

- (65) *sed tu enumquam piscatorem vidisti . . . piscem*
 but you ever fisherman you-saw fish
 acc acc
cepisse? (Rud 987—8)
 catch
 inf
 'But did you ever see a fisherman catch a fish?'

Other Latin clause types also exhibit a gradual spread through the range of possible structures. Saltarelli 1979 demonstrated that

the following clause types are sequentially developed by causatives with *facere* 'make':

- a. finite complement with subordinator *ut*;
- b. finite complement without *ut*;
- c. subject-to-object raising with finite complement;
- d. subject-to-object raising with active and passive infinitives.

In Romance, clause union competes with the reflexes of *facere* and is currently the only possibility with Italian *fare* and Spanish *faire*.

The material presented here from other IE languages indicates a continuing development in each from fewer to more clause types. Like purpose clauses and subject-equi complements, raising and object-equi structures in Old English and Latin evolve from material in the main clause which develops properties of a predicate. All these clausal innovations add further evidence to Ard's claim that diachronic processes cannot be assumed to recapitulate a synchronic description. While the rise of the four clause types involves a reanalysis of main clause surface strings, the processes are different. Purpose clauses and subject-equi complements developed at a time when the infinitive was still an action noun and part of nominal paradigms. In its capacity as the object of a finite verb or as a dative adding material to the sentence, the action noun moved into clausal status as object complement or as a purpose clause, respectively, upon developing subject coreference. On the other hand, we find object-equi and raising developing at a time when the infinitive was completely separated from nominal paradigms and had acquired more properties of a predicate. In Latin we see NP-accusative participle sequences reanalyzed as NP-infinitive after object-equi verbs. In Old English, raising to object evolved from NP-NP sequences being reanalyzed as NP-infinitive-NP. Even though the Old English and the Latin studies are language-specific descriptions, the mechanisms involved are general tendencies that can probably be observed for other languages developing such structures.

5. CONCLUSIONS

In comparing the syntax of the verb complements and purpose clauses in RV, Av and OIr, it is clear that the OIr verbal noun's completely nominal status is morphologically closer to PIE than

the other languages which have some infinitives not part of noun paradigms. OIr syntax, however, contains both highly archaic features and some innovations. Archaisms are most striking with subject of accusative complements: equi-deletion is optional and overt subject is either an agent phrase (with *do*) or a genitive whose exact relationship to the verbal noun is unspecified. Admittance of dative verbal noun complements represents a development within the later OIr period: it starts to appear in raising-to-object clauses while subject-equi complements have accusative object. RV has developed further, both morphologically (having nonnominal infinitives) and syntactically (object being most often dative or accusative; less restrictions on coreferent and independent subject). Av has gone the furthest by having no restrictions on assignment of infinitive form and by standardization of accusative object. All three languages are subject to indeterminacy, but only in the older clause types.

On the basis of this evidence, I conclude that these features do indicate that PIE used subordination with nominalizations. The infinitive was, however, not morphologically separate as it is in most of the historically attested daughter languages. Syntactic features alone decided when the action noun should be interpreted as a noun or as an infinitive. A comparison of IIr and OIr yields features so similar that they must have developed during the period of unity. Equi-deletion was a PIE development with verbs whose subjects control coreference in purpose clauses.¹³ From OIr (32) and scattered RV evidence¹⁴ equi-deletion may have been optional in PIE. Latin's admittance of coreferent infinitive subject after *wish* may also be a holdover from optional application in PIE. Differences in object-equi constructions and the absence of raising in RV mitigates against their reconstruction for PIE. Genitive was probably the majority object case while dative — to judge from IIr and Hittite — was probably a transition case in subordinate clauses. Accusative was an independent development

¹³ My evidence from IIr, Celtic, and Hittite (Disterheft 182—4) contradicts Miller's 1974: 230 argument from Latin and Greek (and the inference that this is true for all IE) that equi NP deletion developed independently in these languages.

¹⁴ RV admits a coreferent subject pronoun in the following purpose clauses: *tarīṣāni* VI. 37.7, *iṣṭāye* I. 113.5, 6, *ūtāye* VIII. 21.9, *pītāye* I. 16.3, *pra-yāi* X. 104.3, *tārāya* VIII. 96.1, *mūdāya* IX. 109.20.

in each subgroup (as OIr shows) as a result of the development of more "verbal" infinitive syntax.

All IE languages surveyed here uniformly display a trend toward an expansion in types of clauses that admit infinitive and in the number of verbs that use infinitive complements within each of the semantic classes. After incipient purpose clause and subject-equi complements of late PIE have become established as productive complements, object-equi clauses start to develop as early as Hittite and are already proliferating in Av and RV. OIr does not use object-equi per se, but a semantically parallel type which deletes a verbal noun's subject when coreferent with the object of a prepositional phrase (literally: He orders to the people (= prep phrase) to do this; for examples see Disterheft 145 f.). By the time of Greek and Latin this type is strongly attested. Raising-to-object — not found in RV or Hittite — is starting in Av and is quite developed in OIr. Raising-to-subject is a distinctly late type. Its presence has been noted for three verbs in Hittite (52), (53), but it does not appear in other languages discussed here until Latin, Greek, and OIr (Disterheft 152—5). We have seen infinitive complementation start in the IE period with subject-equi and purpose clauses, then spread independently in the subgroups from object-equi to raising-to-object then raising-to-subject, all as the result of reanalysis of surface strings within the main clause.¹⁵

In this discussion I have dealt only with a portion of the IE language area; most of the languages omitted are attested later and are arguably not as valuable for reconstruction. Further investigations into the development of structures in other language groups which earlier were infinitiveless will ascertain how much of the successive spread of clause types can be attributed to cross-linguistic tendencies.

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¹⁵ The chronology of other constructions not dealt with here (e.g. imperative infinitives, predicate infinitives, noun and adjective complements) are discussed in Disterheft 181—92.

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