

## DERIVING THE VERB-INITIAL ORDER

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**Verb First: On the Syntax of Verb-Initial Languages**, edited by Andrew Carnie, Heidi Harley and Sheila Ann Dooley, John Benjamins, Amsterdam, 2005, xiv+431pp.

*Keywords:* head-movement, Irish, remnant VP-movement, Tongan, verb-initial languages

### 1. Introduction

This book is a collection of papers that have grown out of a workshop on the syntax of V-initial languages held in Tucson, Arizona, February 21–23, 2003. The three editors of the book (Andrew Carnie, Heidi Harley, and Sheila Dooley) organized this workshop, in order to provide answers to two important questions about world verb-initial languages: (1) Are there any typological properties that all verb-initial languages have in common? and (2) Is there a universal derivation of verb-initial order? Carnie, Harley and Dooley (2005b), in the Introduction

\* We would like to thank Jessica Dunton, Kenichi Goto, Roger Martin, Chie Nakamura, Fumikazu Niinuma, Kenji Oda, and two anonymous *EL* reviewers for their helpful comments. We are also indebted to the following informants for the Irish data discussed in this paper: (1) for the Ulster dialect, Bríd Bean Mhic Íomhair, Seán Mac Giolla Chóill, Méabha Bean Uí Phíopalaigh, Anna Ní Bhaoill, Bríd Bean Uí Ghallchóir, and Pádraig Ó Dúgáin (Éamonn), (2) for the Connacht dialect, Liam Mac An Iomaire, Máire Ní Neachtain, and Seosamh Ó Cuaig, and (3) for the Munster dialect, Micheál Ó Fiannachta and Máire Úna Ní Bheaglaioich. All errors are our own. Research by the first author was supported in part by (1) Japan Society for the Promotion of Science Grant #18520303 to Gifu University and (2) Center for Linguistics, Nanzan University, of which he is an adjunct researcher (from June 1, 2006 to March 31, 2008).

to the book, state that the answer to both questions is *negative*, in accordance with an earlier statement by McCloskey (1996). McCloskey (1996: 273–274), after investigating the properties of “salient unaccusative” constructions and related impersonal constructions in Modern Irish, states the following: “[T]he properties we have demonstrated for Irish here are [not] properties of VSO languages in general. This observation is in harmony with the trend of recent work in VSO languages, which has shed great doubt on the idea that they might form a unitary class. [...] If this work is on the right track at all, we are led to expect that there will be many, many different ways of arriving at a surface order of Verb-Subject-Complements.” We will take a similar position to the above researchers, and our review of this book will make the points clear by presenting and examining relevant data from several V-initial languages.

The organization of this paper is as follows. In Section 2, we first present Tomlin’s (1986) research on the ratio of the world languages in terms of the word order among subject (S), object (O), and verb (V), and show that the percentage of verb-initial languages is estimated at roughly 12%. We also show the geographical distribution and language family classification of the V-initial languages investigated in this book, indicating that these languages come from widely separated geographic areas and genetic stocks. In Section 3, we will look at the diversity involved in deriving the verb-initial order. Specifically, we will look at two different ways of deriving the V-initial order: (1)  $X^0$ -movement (Tongan) and (2) XP-movement (Niuean).<sup>1</sup> Investigation into these languages suggests that it is not the case that there is a universal derivation of verb-initial order. In Section 4, we will see that there are two conflicting analyses that account for the verb-initial order within one language, namely, modern Irish (Irish, hereafter). We will review McCloskey’s (2005) and Oda’s (2005) analyses. The former argues for  $X^0$ -movement and the latter for remnant XP-movement. After reviewing them, we will show that these two analyses are equally tenable, as

<sup>1</sup> There are at least three other different ways of deriving the V-initial order: (1) focus movement (Wanyi (Laughren, Pensalfini and Mylne (2005))), (2) movement by the Principles of Information Structure (Riau Indonesian (Gil (2005))), and (3) lowering of the subject into the VP (Chamorro (Chung (1990))). We cannot illustrate these types of operations due to space limitations.

far as three syntactic phenomena relevant to the two analyses are concerned. Finally, we provide concluding remarks in Section 5.

## 2. Verb-Initial Languages in the World

Before reviewing the analyses of the verb-initial languages in Carnie, Harley and Dooley (2005a) (CHD (2005a), hereafter), it is worthwhile presenting basic facts about verb-initial languages for those who are not familiar with studies about such languages. Tomlin (1986) reports, based on the results of the statistical analysis regarding the various ordering possibilities of subject (S), object (O), and verb (V), that among the world's languages, the percentage of verb-initial languages (VSO and VOS) is estimated at roughly 12% (9.20% (VSO) and 2.99% (VOS)). This is shown in Table 1.

Table 1: The Frequencies of Basic Constituent Orders in a Representative Sample of the Languages of the World (Tomlin (1986: 22))

	Constituent Order	Number of Languages	Frequency in Final Sample (%)
-V	SOV	180	44.78
	OSV	0	0.00
-V-	SVO	168	41.79
	OVS	5	1.24
V-	VSO	37	9.20
	VOS	12	2.99
Totals		402	100.00

The percentages of verb-final languages (SOV and OSV) and those of verb-middle languages (SVO and OVS) are estimated roughly at 45% (44.78% (SOV) and 0.00% (OSV)) and 43% (41.79% (SVO) and 1.24% (OVS)), respectively. Therefore, it is clear that the percentage of the verb-initial languages is far lower than the percentage of the verb-final and that of the verb-middle languages.

Tomlin (1986) further reports the significance of the relative frequencies among the six basic constituent orders in the sample in Table 1. The significance of the relative frequencies is shown in (1).

- (1) The Significance of the Relative Frequencies  
 SOV = SVO > VSO > VOS = OVS > OSV

(Tomlin (1986: 22))

(1) shows that while there is a slight difference in the frequencies of SOV and SVO, this difference is not statistically significant. In other words, the comparative frequencies of SOV and SVO are essentially the same. However, there is a statistically significant difference between the frequencies of SOV and SVO and the frequency of VSO. Therefore, it is natural that VSO languages are encountered less frequently than SOV and SVO languages in the world.

As the number of verb-initial languages is far smaller than that of verb-final and verb-middle languages, one might imagine that verb-initial languages may belong to one particular language family, and have a particular geographical distribution. However, this is not true. They belong to different language families, and have a wide-ranging geographical distribution. This is shown by the list showing geographical distribution and the language family classification of the verb-initial languages examined by 15 independent researchers and one research group (Laughren, Pensalfini, and Mylne) in CHD (2005a). Observe Table 2.

Table 2: The Geographical Distribution and Language Family Classification of the Verb-Initial Languages Examined in CHD (2005a)

Area	Name of the Language	Classification	Name of the Researcher in CHD (2005a)
Africa	Kisongo Maasai	Nilo-Saharan, Chari-Nile	Koopman
America (Central)	Chalcatongo Mixtec	Oto-Menguean, Mixtecan	Macauley
	San Lucan Quiaviní Zapotec	Oto-Menguean, Zapotecan	Lee
America (Northern)	St'át'imcets	Salish	Davis
America (Southern)	Tzotzil	Penutian, Mayan	Davis
Australia	Wanyi	Australian	Laughren, Pensalfini and Mylne
Austronesia	Chamorro	Austronesian, Malayo-	Chung

		Polynesian	
	Malagasy	Austronesian, Malayo- Polynesian	Chung, Travis
	Niuean	Austronesian, Oceanic	Chung, Massam, Otsuka
	Palauan	Austronesian, Malayo- Polynesian	Oda
	Riau Indonesian	Austronesian	Gil
	Seediq	Austronesian, Malayo- Polynesian	Chung, Holmer
	Tagalog	Austronesian, Malayo- Polynesian	Billings
	Tongan	Austronesian, Oceanic	Bury, Chung, Otsuka
Europe	Breton	Indo-European, Celtic	Jouitteau
	Irish	Indo-European, Celtic	McCloskey, Oda
	Welsh	Indo-European, Celtic	Bury

Table 2 clearly shows that the verb-initial languages treated in CHD (2005a) belong to several different language families, and their geographical distribution is not identical.

### 3. Deriving the Verb-Initial Order

We saw in the above section that verb-initial languages are found in a range of unrelated language families. In this section, we focus on VSO languages, and examine whether the VSO order is derived in a uniform fashion, in other words, by one common factor. Based on Otsuka's (2000, 2001, 2005) and Massam's (2000, 2001, 2005) studies on Tongan and Niuean, we will see that the answer to the above ques-

tion is no, and that there are at least two ways to derive the surface VSO order in world verb-initial languages: verb-movement and VP-remnant movement. Otsuka compares Niuean and Tongan, two closely related Polynesian languages of the Tongic subgroup, and concludes that while in Niuean, the VSO order is a consequence of VP-remnant movement, as proposed by Massam (2000, 2001), in Tongan, VSO arises due to V-to-C movement, as proposed by Otsuka (2000).

### 3.1. $X^0$ -Movement

The basic word order of Tongan is VSO, as shown in (2). Note that Case marking is ergative, so that absolutive is marked by 'a, and ergative by 'e.

- (2) a. Na'e tangi 'a Sione.  
       PST cry ABS Sione  
       'Sione cried.'
- b. Na'e ma'u 'e Sione 'a e ika.  
       PST get ERG Sione ABS the fish  
       'Sione got the fish.'

However, when a clitic pronoun is used for the subject of the sentence, it is placed in front of the verb, and the SVO order emerges, as shown in (3).

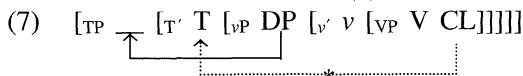
- (3) a. Na'e **ne** tala-ange 'a e talanoa ki he tangata.  
       PST **3.SG** tell-DIR.3 ABS the story to PRT the man  
       'He told the story to the man.'
- b. Na'e **ne** tangi 'a ia.  
       PST **3.SG** cry ABS she  
       'She cried.'

In (3a, b), the clitic pronoun *ne* '3.SG' precedes the verb. Note that (1) clitic pronouns in Tongan cannot co-occur with a Case marker, (2) they cannot be placed in the post-verbal position, whether or not they are Case-marked, and (3) they cannot be used as objects, as shown in (4)–(6).

- (4) a. \*Na'e 'e **ne** tala-ange 'a e talanoa ki he  
       PST **ERG 3.SG** tell-DIR.3 ABS the story to PRT the  
       tangata.  
       man  
       'He told the story to the man.'
- b. \*Na'e 'a **ne** tangi 'a ia.  
       PST **ABS 3.SG** cry ABS she

- 'She cried.'
- (5) a. \*Na'e tala-ange 'e ne 'a e talanoa ki he  
 PST tell-DIR.3 **ERG 3.SG** ABS the story to PRT the  
 tangata.  
 man  
 'He told the story to the man.'
- b. \*Na'e tangi 'a ne.  
 PST cry **ABS 3.SG**  
 'She cried.'
- c. \*Na'e tangi ne.  
 PST cry **3.SG**  
 'She cried.'
- (6) \*Na'a ne puke 'e Sione.  
 PST **3.SG** arrest **ERG** Sione  
 'Sione arrested him.'

Otsuka (2001) notices that while Case marking is ergative in Tongan, the distribution of clitic pronouns shows an accusative pattern, and provides an account for this morphological split in terms of the two economy conditions: Last Resort and the Minimal Link Condition (MLC) in Chomsky (1995). The fact that clitic pronouns cannot be Case-marked suggests that they are not DPs, which are normally Case-marked. Based on this, Otsuka (2001) proposes that clitic pronouns are heads, and undergo head-movement/adjunction to T, which is subject to the economy conditions. With this proposal, Otsuka (2001) argues that this cliticization must be licensed by feature checking (Last Resort), in order to check off T's EPP feature, and that the MLC requires that T's EPP feature be checked by the closest matching feature. This explains the fact that a clitic generated as a direct object cannot cliticize onto T across the subject DP in *vP* SPEC, due to the MLC, and this DP moves to TP SPEC instead, as shown in (7).



Given the above analysis, in which nominals (clitic pronouns and DPs) target T, Otsuka (2001) concludes that T's EPP feature is [D] rather than [Pred(icate)] in Tongan and that it is strong. Consequently, VP raising to TP SPEC is not possible in Tongan, unlike Niuean, which will shortly be discussed below. If this analysis is correct, it follows that when the subject is a full DP, it moves to TP SPEC, and in order to derive the surface VSO order, the verb must move to C by way of T.

Hence, in Tongan, the distribution of clitic pronouns suggests that the surface VSO order is derived by head-movement ( $X^0$ -movement) rather than VP-movement (XP-movement).

### 3.2. XP-Movement

Let us now examine the properties of Niuean, a language closely related to Tongan, based on Massam's (2000, 2001, 2005) work. Niuean is also a VSO language, as shown in (8). Note that Case marking is ergative, and an NP's Case is indicated by a Case marker: for common nouns, *e* if absolutive and *he* if ergative; for proper nouns, *a* if absolutive and *e* if ergative.

- (8) a. Ne tohitohi a Sione.  
       PST writing ABS Sione  
       'Sione was writing.' (Massam (2001: 155))
- b. Ne inu e Sione e kofe.  
       PST drink ERG Sione ABS coffee  
       'Sione drank coffee.' (Massam (2001: 155))
- c. Ne kai he pusi ia e moa.  
       PST eat ERG cat that ABS bird  
       'The cat ate the chicken.' (Seiter (1980: 29))

In the examples in (8), the clause-initial predicates are all verbs preceded by the past tense marker *ne*.

Massam (2000) reports that Niuean clauses are consistently predicate-initial, irrespective of whether the predicates are verbs, as in (8), or predicate phrases, such as NPs or PPs, as shown in (9).

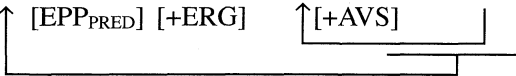
- (9) a. Ko Mele e faiaoga.  
       PRED Mele ABS teacher  
       'The teacher is Mele.' (Massam (2000: 104))
- b. Hā he fale gagao a ia.  
       PRED in house sick ABS she  
       'She is in the hospital.' (Seiter (1980: 54))

It is important to note that in the examples in (9), the predicate phrases are followed by a subject NP marked absolutive. This indicates that what is placed in the clause initial position is a phrase (XP) in (9), and a verbal head ( $X^0$ ) in (8).

Massam (2000, 2001) proposes a unified account for these  $X^0$ -movement and XP-movement phenomena in Niuean by claiming that Niuean predicate-initial orders are all derived by XP-movement rather than  $X^0$ -movement, and that T's EPP feature is [Pred(icate)] rather than [D].



Therefore, in this system, only predicative XPs can move to TP SPEC. To illustrate, consider the derivation in (10) for examples with a transitive verb, such as (8b, c).

- (10) [TP [vPj V  $t_{DPi}$ ] T [vP DP v [AbsP DP<sub>i</sub> Abs [vPj V  $t_{DPi}$ ]]]]  


In (10), the object DP first moves to AbsP SPEC for Case feature checking. Then, the VP, from which the object DP has already moved out, moves across the subject DP base-generated in vP SPEC to TP SPEC for EPP feature checking. In this way, the surface VSO order is derived.

In the case of XP predicate fronting examples, such as (9a, b), the subject DP is base-generated in AbsP SPEC, and the XP predicate moves across the subject DP to TP SPEC for EPP feature checking. Consequently, the surface predicate-subject order is derived.

Furthermore, Niuean has pseudo noun-incorporation (PNI) phenomena (Massam (2000, 2001)), which provides further support to the proposed remnant VP-movement analysis. The data that show the PNI effects are provided in (11).

- (11) a. Ne inu kofe kono a Mele.  
 PST drink coffee bitter ABS Mele  
 'Mele drank bitter coffee.' (Massam (2000: 98))  
 b. Ne holoholo kapinu kiva fakaenene a Sione.  
 PST wash dish dirty carefully ABS Sione  
 'Sione washed dirty dishes carefully.'  
 (Massam (2000: 106))

In (11), the surface word order is VOS rather than VSO, the normal word order in Niuean. There are two morphological facts that should be noted for PNI examples. First, the direct object appears without a Case marker, which normally appears with the object of a transitive verb as absolutive. (See (8b, c).) Second, the subject is not marked ergative, which would be normal with the subject of a transitive verb. (Again, see (8b, c).) Rather, it is marked absolutive. Massam (2000) claims that these two facts seem to suggest that as it lacks Case, the object is an NP rather than a DP, and it is incorporated into the verb. Then, when the incorporation process is done, the entire VP moves to TP SPEC for EPP feature checking. This is shown by the derivation in (12).

$$(12) \quad [_{TP} [_{VP_i} V NP] T [_{AbsP} DP Abs t_{VP_i}]]$$

$\uparrow$ 

$[EPP_{Pred}] \quad [+AVS]$

In (12), the object NP first incorporates into V, as a process of PNI, and then, the entire VP moves to TP SPEC, deriving the surface VOS order. Massam (2000, 2001) concludes that Niuean verb-initial orders (VSO and VOS) arise from predicate raising to TP SPEC, and T's EPP feature is [Pred] rather than [D].

Thus, we have seen that there are at least two ways ( $X^0$ -movement and XP-movement) to derive the verb-initial order in two closely related languages (Tongan and Niuean).

#### 4. Conflicting Analyses for Irish

In the above section, we have seen two different ways to derive the surface V-initial order in two related, but different languages. In this section, we will see that there are two conflicting analyses that account for the V-initial order within one language, Irish. We will review McCloskey's (2005) and Oda's (2005) analyses. The former argues for  $X^0$ -movement and the latter for remnant XP-movement.

##### 4.1. McCloskey (2005): $X^0$ -Movement

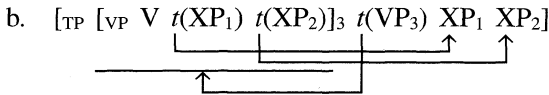
McCloskey (2005) investigates the processes that determine V-initial order in Irish finite clauses and the processes that determine predicate-initial order in verb-less clauses, and argues, contra Oda (2005), that regardless of how predicate-initial order is determined in verb-less clauses, a head-movement must be postulated, which raises at least adjectival heads from the predicate to a higher inflectional position. His argument is based on evidence from patterns of ellipsis and coordination. Due to space limitations, we will only review the patterns of ellipsis below.

There have been two dominant approaches to derive the verb-initial order in VSO languages. One is a V-movement to a higher functional head, as shown in (13a), and the other is a remnant VP-movement to TP SPEC, as shown in (13b).

$$(13) \quad a. \quad [_{FP} V [_{XP...} t(V)...]]$$

$\uparrow$ 

$[XP...]$



In (13a), only the verb moves out of XP, and moves to a functional head. In (13b), the VP moves to TP SPEC, after the arguments of V (XP<sub>1</sub> and XP<sub>2</sub>) have been moved out of the VP. Therefore, this movement is called a remnant VP-movement.

McCloskey (2005) argues that verb-initial order in finite clauses and predicate initial order in verb-less clauses involve two different processes, and that the verb-initial order (and the adjective-initial order) must at least be derived by head-movement, based on ellipsis data. (We will see later that the predicate-initial order in verb-less clauses is derived under the assumption that the basic phrase structure of verb-less clauses is different from that of tensed clauses.) Let us consider the examples in (14).

- (14) a. Sciob an cat an t-eireaball de-n luch.  
snatched the cat the tail from-the mouse  
'The cat cut the tail off the mouse.'
- b. A-r sciob?  
Q-PST snatched  
'Did it?'

(14a) is a finite clause, and (14b) is a question, asking if the statement in (14a) is correct. As the grammaticality of (14b) shows, ellipsis elides all of a finite clause except the verb in Irish. Note here that both analyses (V-movement and remnant VP-movement) can account for this ellipsis phenomenon. McCloskey (2005) then provides examples with non-verbal predicates containing the copula *is*, to show that the ellipsis process is best explained by head-movement. As shown in (15), the copula *is* is followed by an NP-predicate (15a) and an AP-predicate (15b).

- (15) a. Is **comhartha** go bhfuil muid pósta an mhalairt  
COP sign C are we married the exchange  
fáinní seo.  
rings.GEN DEMON  
'This exchange of rings is a sign that we are married.'
- b. Is **cosúil le taibhse** é.  
COP like with ghost him  
'He is like a ghost.'

Furthermore, (16) shows that the copula may follow a COMP.

- (16) **An** mb' fhiú a ghoil ann?  
**Q** COP.COND worth PRT go there  
 'Would it be worth going there?' (Ó Baoill (1996: 62))

Therefore, the copular construction has the structure shown in (17).

- (17) [(C) T XP DP]  
 [Pred]

McCloskey (2005), after providing basic properties of the copular construction, presents crucial data to show that the ellipsis process is best explained by head-movement. Consider the examples in (18) and (19) with AP predicates.

- (18) a. **An** [<sub>AP</sub> cosúil le taibhse] [<sub>DP</sub> é]?  
 Q.COP like with ghost him  
 'Is he like a ghost?'  
 b. **Is** cosúil.  
 COP like  
 'He is.'  
 c. \***Is** [<sub>AP</sub> cosúil le taibhse].  
 COP like with ghost  
 'He is.'
- (19) a. **An** [<sub>AP</sub> ionann agus teip] [<sub>DP</sub> é]?  
 Q.COP identical as failure it  
 'Is it tantamount to a failure?'  
 b. **Ní** h-ionann.  
 NEG.COP identical  
 'It isn't.'  
 c. \***Ní** [<sub>AP</sub> h-ionann agus teip].  
 NEG.COP identical as failure  
 'It isn't.'

(McCloskey (2005: 19a-c))<sup>2</sup>

In (18) and (19), the adjectives (heads) alone (*cosúil* 'like' in (18) and (*h-ionann* 'identical' in (19)) must survive ellipsis, just like the cases of finite verbs, while the larger predicates APs (the heads with their arguments and adjuncts) cannot.

The copular construction with a nominal predicate shows a different

<sup>2</sup> Note that in (19b, c), *hionann* 'identical' rather than *h-ionann* 'identical' is used in standard writing.

property with respect to ellipsis. Consider the examples in (20) and (21).

- (20) An [NP duine de na fearaibh] [DP é]?  
 Q.COP person of the men him  
 'Is he one of the men?'

- (21) a. Is ea.  
 COP  
 'He is.'  
 b. \*Is duine.  
 COP person  
 'He is.'  
 c. \*Is [NP duine de na fearaibh].  
 COP person of the men  
 'He is.'

The question in (20) can be answered by (21a), but not by (21b, c). Note that in (21a), the element *ea* appears, which only functions to support the copula prosodically. Therefore, the examples in (21) show that when the copular construction with a nominal predicate undergoes ellipsis, no element, including the head, can survive.<sup>3</sup>

Based on the above data, McCloskey (2005) claims that the ellipsis process in the copular construction with an AP predicate indicates the necessity of head-movement. Note that under the XP-movement hypothesis, an AP predicate in the copular construction would be moved to TP SPEC, and consequently, the entire AP should survive ellipsis, which is not the case, as shown by (18c) and (19c). On the other hand, if the head A alone moves to a higher projection, the ellipsis phenomenon is correctly accounted for. Therefore, McCloskey (2005) concludes that the raising involved in the ellipsis process is head-movement rather than phrasal movement. As for the ellipsis phenomenon in the copular construction with a nominal predicate, McCloskey (2005) suggests that nominal predicates must occupy a position low enough that

<sup>3</sup> Note that other possible answers to (20) are (i) and (ii).

- (i) Duine díobh é  
 person of-them him  
 (ii) Duine acu é  
 person of-them him

(ii) is Ulster Irish. (i) and (ii), which do not contain the copula, are grammatical. At this point, we do not know the exact mechanism that derives (i) and (ii), and leave this issue for future research.

they cannot undergo movement to a higher functional projection, so that they cannot survive ellipsis.

We have seen that head-movement must be postulated to account for the ellipsis phenomena in the copular construction with AP predicates in Irish. However, there is one important question remaining with respect to the copula structure with AP predicates. Remember that both in (18a) and (19a), the AP predicates follow the copula. The proponents of the XP-movement hypothesis can easily derive the surface order of COP AP DP, as under their analysis the AP is moved from the position following the DP. However, under the head-movement analysis, no XP-movement, as in the XP-movement hypothesis, is assumed, so that the question arises as to why the AP is positioned in front of the DP, to begin with. McCloskey (2005) argues, following Doherty (1996), that the AP is base-generated in the surface position, and the DP is right-adjoined to Predicate Phrase (PredP), as shown in (22).

(22) [<sub>TP</sub> T [<sub>PredP</sub> Pred [<sub>AP</sub> A PP] DP]]

McCloskey (2005) argues that A moves to Pred, and then moves to T, just like V moves to T, and this head-movement does not change the surface order among A, PP, and DP. Binding facts (Conditions A and C effects) reported in Doherty (1996) show that DP is structurally higher than the relevant DP within PP.

Furthermore, McCloskey (2005) points out a potential problem of the XP-movement analysis. Under this analysis, the XP moves to TP SPEC. Since a phrase in TP SPEC is not a complement or the specifier of the complement of an L-marking head, that phrase should constitute a barrier (Chomsky (1986)). However, this is not the case, as shown by the example in (23), which involves clefting of the complement of an AP-predicate.

(23) Is liomsa is [<sub>AP</sub> cosúil t] [<sub>DP</sub> é].  
 COP with-me COP like him  
 'It's me that he's like.'

Under the XP-movement hypothesis, in (23), the AP is moved to TP SPEC, and from that position, the PP *liomsa* 'with me' is clefted. Since the AP in TP SPEC constitutes a barrier, given Chomsky's (1986) definition, (23) would be incorrectly predicted to be ungrammatical. On the other hand, under the head-movement analysis, with a non-verbal predicate being base-generated at the surface position, this problem does not arise, since the non-verbal predicate does not constitute a barrier, and extraction out of the phrase is allowed. Therefore, McCloskey

(2005) concludes that the copular construction with non-verbal predicates involves base-generation of the predicates at their surface position. In this way, McCloskey (2005) defends the head-movement hypothesis, and explains the predicate-initial order in Irish.

#### 4.2. Oda (2005): Remnant XP-Movement

Oda (2005) investigates a typological correlation between V-initial order and the way that *wh*-questions are formed in V-initial languages. Specifically, Oda argues that there are two sources for surface V-initial order, V-movement and VP-movement, and the surface V-initial order is derived by head-movement of a fully inflected verb to T<sup>0</sup> (as argued by Alexiadou and Anagnostopoulou (1998)), or by XP-movement of VP to TP SPEC due to EPP requirement to check [Pred] feature (as argued by Massam (2000)).<sup>4</sup> Oda further claims that in VP-movement languages, a clause cannot be typed by movement (in the sense of Cheng (1997)), because VP-movement languages employ [Pred] as the EPP feature in the C-T layer, so that *wh*-movement cannot take place in VP-movement languages, as the C-T layer only has the [Pred] feature as the EPP feature, not a  $\phi$ -feature, which triggers *wh*-movement. With this claim, Oda (2005) examines Irish syntax, and proposes, contra McCloskey (2005), that the V-initial order in Irish is better analyzed as an instance of VP-movement, and Irish *wh*-questions as pseudo-clefts, rather than as clauses with a *wh*-phrase being moved to CP SPEC.

Oda (2005) first examines basic properties of V-movement languages and those of VP-movement languages, using V-movement language data from Catalan and Greek (Alexiadou and Anagnostopoulou (1998)) and VP-movement language data from Niuean (Massam (2000, 2001)). Oda observes that there is a clear partition between V-movement languages and VP-movement languages with respect to five properties.

First, rich and uniform agreement is required in V-movement languages, but is disallowed in VP-movement languages. Second, nominal predicate fronting is disallowed in V-movement languages, while it is required in VP-movement languages. Third, object pied-piping, which carries object along with V, is disallowed in V-movement languages, while it is possible in VP-movement languages. Fourth, an alternation

<sup>4</sup> Oda (2005) uses I<sup>0</sup>/IP, but we replace them with T<sup>0</sup>/TP for clarity of exposition.

between subject-verb and verb-subject is possible in V-movement languages, while it is disallowed in VP-movement languages. This fact follows from the assumption that in VP-movement languages, the C-T layer has the [Pred] feature as the EPP feature, so that it cannot attract a focus phrase or a topic phrase in the subject position to its local domain across VP, while in V-movement languages, C may have a  $\varphi$ -feature that attracts a focus phrase or a topic phrase in the subject position to its local domain across V. Fifth, and finally, given Cheng's (1997) Clause Typing Hypothesis (CTH) shown in (24), along with the hypothesis that in VP-movement languages, the C-T layer has the [Pred] feature as the EPP feature, not a  $\varphi$ -feature, which triggers wh-movement, VP-movement languages cannot type a clause by movement. Consequently, particle typing is the only option available to those languages.

(24) *Clause Typing Hypothesis*

Every clause needs to be typed. In the case of typing a wh-question, either a wh-particle in  $C^0$  is used or else fronting of a wh-word to the specifier of  $C^0$  is used, thereby typing a clause through  $C^0$  by spec-head agreement.

(Cheng (1997: 22))

On the other hand, in V-movement languages, C has a  $\varphi$ -feature which triggers wh-movement obligatorily in some languages, and optionally in other languages. Therefore, V-movement languages can type a clause by movement or by a particle. The differences with respect to the five properties between V-movement languages and VP-movement languages are summarized in (25).

(25)

Property	V-Movement Language	VP-Movement Language
Rich and Uniform Agreement	Required	Disallowed
Nominal Predicate Fronting	Disallowed	Required
Object Pied-Piping	Disallowed	Possible
SV/VS Alternation	Possible	Disallowed
Clause Typing	Movement/Particle	Particle only

Oda (2005), after showing fundamental typological differences between V-movement languages and VP-movement languages, examines the properties of Irish, a well studied V-initial language since McCloskey (1979), and concludes that Irish is better analyzed as a VP-movement language. We will see his arguments for this in turn below.



First, as for agreement morphology, rich and uniform agreement is not found in Irish. Observe the paradigm of Irish verbal morphology with a verb *bris* ‘break’ in (26).<sup>5</sup>

(26)

	Present	Past
Singular	<i>bris-im</i> ‘I break’	<i>bhris mé</i> ‘I broke’
	<i>bris-eann tú</i> ‘you <sub>SG</sub> break’	<i>bhris tú</i> ‘you <sub>SG</sub> broke’
	<i>bris-eann sí/sé</i> ‘s/he breaks’	<i>bhris sí/sé</i> ‘s/he broke’
Plural	<i>bris-imid</i> ‘we break’	<i>bhris-eamar</i> ‘we broke’
	<i>bris-eann sibh</i> ‘you <sub>PL</sub> break’	<i>bhris sibh</i> ‘you <sub>PL</sub> broke’
	<i>bris-eann siad</i> ‘they break’	<i>bhris siad</i> ‘they broke’

(26) shows that in the present forms, only the 1st person singular form *bris-im* and the 1st person plural form *bris-imid* have a different form, the others being identical (*bris-eann*), and in the past forms, only the 1st person plural form *bhris-eamar* has a different form, the others being identical (*bhris*). Therefore, it is clear that Irish does not retain richness and uniformity in verbal morphology, which is a property of VP-movement languages.

Second, the nominal predicate in the copular construction must appear clause-initially with a copula *is*, as shown in (15a) in 4.1 and the examples in (27).<sup>6</sup>

- (27) a. *Is cúpla iad Niall agus Fíona agus...*  
 COP twin AGR Niall and Fíona and  
 ‘Niall and Fíona are twins, and ...’ (MO 3)
- b. *Deir sé [gur banaltra Máire].*  
 say.PRES he C nurse Mary  
 ‘He says that Mary is a nurse.’ (SMC2 103)

Third, object pied-piping is not possible in Irish, as shown in (28).

- (28) a. *Léigh siad an leabhar.*  
 read they the book  
 ‘They read the book.’

<sup>5</sup> Note that the forms given in (26) are from the standard written language ‘An Caighdeán Oifigiúil.’ Dialects have other endings such as *-(e)abhair* ‘you plural PAST’ and *-(e)adar* ‘they plural PAST.’

<sup>6</sup> MO: Ó Fionnmhacáin (2000)

SMC2: Course book for intermediate Irish, Celtic Studies, St. Michael’s College, University of Toronto

- b. \**Léigh an leabhar siad.*  
       read the book they

In (28a), the word order is VSO, and the example is grammatical, while in (28b), the word order is VOS, and the example is ungrammatical. Therefore, unlike Niuean “pseudo noun incorporation” discussed in 3.2, an object is never pied-piped with a finite verb in Irish.

Fourth, SV/VS alternation is disallowed in Irish. This is shown by the ungrammaticality of (29b).

- (29) a. *D’fhág Máire a cóta ar an urlár.*  
           leave.PST Mary her coat on the floor  
           ‘Mary left her coat on the floor.’  
       b. \**Máire d’fhág a cóta ar an urlár.*  
           Mary leave.PST her coat on the floor

Fifth, and finally, based on the examples in (30), Oda (2005) argues that Irish types a clause by a particle.

- (30) a. An bhfaca tú An Túr Eiffel?  
           C [+Q] see.PST you the Tower Eiffel  
           ‘Did you see the Eiffel Tower?’ (MO 145)  
       b. Ar shiúil sibh abhaile ansin?  
           C.PST [+Q] walk you.PL home then  
           ‘Did you walk home then?’ (MO 19)

(30a, b) are simple yes/no questions, and the question marker *an/ar* appears at the left peripheral position. Therefore, given Cheng’s (1997) CTH, Irish is a particle-typing language.

Based on these facts, Oda (2005) concludes that except for the fact that Irish does not allow object pied-piping, the other four properties of Irish show that the language is better analyzed as a VP-movement language.

With this conclusion, Oda (2005) provides a new perspective on the structure of *wh*-questions in Irish. As shown in (30), yes/no questions in Irish are marked by a particle. Therefore, given Cheng’s (1997) CTH, *wh*-questions in Irish should also be marked by a particle, as in *wh*-in-situ languages. However, this is not the case. Consider the examples in (31).

- (31) a. *Céard aL rinne Éamonn?*  
           what C do.PST Éamonn  
           ‘What did Éamonn do?’ (MO 20)  
       b. *Cé aL scríobh an dráma seo?*  
           who C write.PST the drama this

'Who wrote this drama?' (MO 63)

c. \*Bhuail Cathal cad?

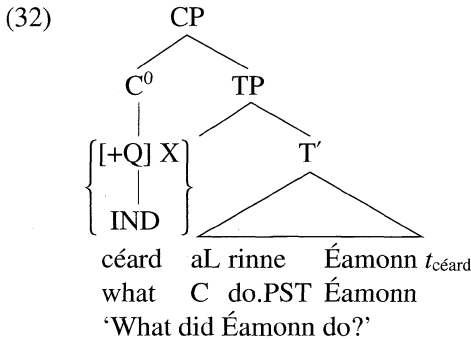
hit.PST Charles what

'Charles hit what?'

(Carnie (1995: 194))

(31a, b) show that an object wh-phrase and a subject wh-phrase are placed at the left peripheral position and there is no particle at the clause-peripheral position that types wh-clauses in Irish. (31c) is ungrammatical, which indicates that a wh-phrase cannot be in situ in Irish.<sup>7</sup>

In order to explain the fact that a wh-phrase is placed in the sentence-initial position in Irish, Oda tentatively proposes that there is a morphological requirement on wh-items in Irish in such a way that wh-items in Irish are composed of  $C_{[+Q]}$  and a nominal element that is equivalent to an indeterminate in languages like Japanese (Kuroda (1965)). Therefore, the structure of the wh-question in (31a) should look like (32).



(cited from Oda (2005: 30) with slight revisions)<sup>8</sup>

In (32),  $C_{[+Q]}$  types the clause as a wh-question, as Oda claims that Irish is a particle-typing language, and *céard* 'what' moves to TP SPEC in order to make a wh-phrase with  $C_{[+Q]}$ . Note that given Cheng's (1997) CTH, CP SPEC is unavailable, and thus, *céard* 'what' moves into TP SPEC, so that this movement is not characterized as A'-movement. Note also that according to Oda, as  $C_{[+Q]}$  and an indeterminate constitute a wh-phrase in Irish, as shown above, Irish indeterminates

<sup>7</sup> Note that (31c) is actually not ungrammatical. See Appendix.

<sup>8</sup> (32) will be refined below.

function only as wh-question phrases, when coupled with  $C_{[+Q]}$ , and do not express other meanings such as “someone/something” and “anyone/anything,” which can be expressed by Japanese indeterminates.

Oda (2005) further argues that this analysis can correctly account for the fact that Irish does not allow multiple wh-questions. Consider the example in (33).<sup>9</sup>

(33) \*Cé aL rinne caidé?

who C did what

‘Who did what?’

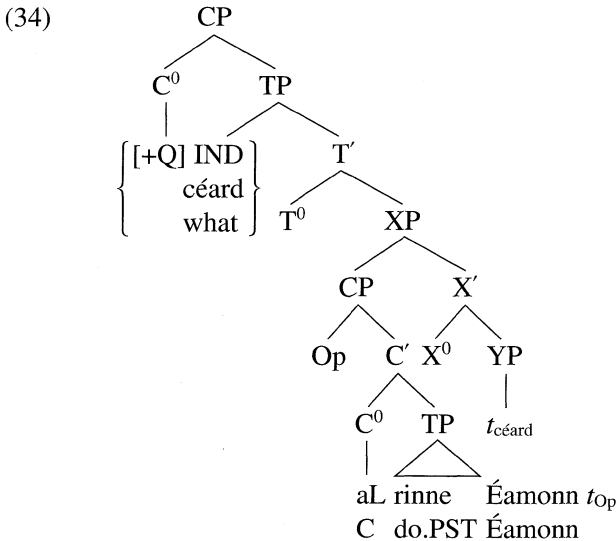
(McCloskey (1979: 71))

If Oda’s analysis is correct, wh-phrases in Irish are composed of two elements, an interrogative typing particle  $C_{[+Q]}$  and an indeterminate. In (33), *cé* ‘who’ properly contains the two elements in the local domain of  $C_{[+Q]}$ . However, as *caidé* ‘what’ is not in the local domain of  $C_{[+Q]}$ , it cannot function as a wh-phrase in situ. Furthermore, if the indeterminate part of the wh-phrase were actually adjacent to an invisible  $C_{[+Q]}$  in the object position, the  $C_{[+Q]}$  would cause a problem, as there is no C position in the object position. Note that even if the wh-phrase is interpreted in a no-C position, the sentence still suffers from redundant typing (double typing) which could lead to interpretive difficulty. Therefore, (33) is excluded in any event.

Oda (2005), after discussing why Irish wh-items must appear at the left edge of the clause, refines his analysis of wh-clauses in Irish, and provides the exact structure of wh-questions under the assumption that Irish is a VP-movement language. Oda argues that because Irish is a VP-movement language, the C-T layer has the [Pred] feature as the EPP feature, not a  $\varphi$ -feature, so that it is impossible to move a wh-phrase (or any other DPs) into CP SPEC. Rather, a wh-phrase must move to TP SPEC (due to the morphological requirement on wh-items in Irish). Oda proposes that this suggests that Irish wh-questions are a subset of pseudo-clefts, so that a wh-phrase occupies (moves to) the predicate position, which is TP SPEC under the VP-movement analysis, and the remainder occupies a subject position, as shown in (34), which is the

<sup>9</sup> We will discuss this point in Appendix, and show that Irish actually does allow multiple wh-questions.

exact structure of (31a) under Oda's refined analysis.



(based on personal communication with Kenji Oda)

According to Oda, in (34), the CP *Op aL rinne Éamonn t<sub>op</sub>* 'Op C do.PST Éamonn' and *céard* 'what' function as a subject and a predicate of the matrix clause, respectively, and the latter moves to TP SPEC, as in verb-less clauses. This movement should be possible, as predicate fronting in verb-less clauses is possible in Irish, as we saw in 4.1. Note also that within the CP, the null operator moves to CP SPEC from within the embedded TP.<sup>10</sup>

<sup>10</sup> Note that in the most strict interpretation of Cheng's (1997) CTH, provided that Irish is a remnant VP-movement language, a clause must be typed by a particle in C, and thus, CP SPEC is unavailable, so that the null operator in (34) cannot target the CP SPEC position, as suggested in Oda (2005: 128). Oda (2005), however, suggests another possibility, following Adger and Ramchand (2003), that no (operator) movement is involved in Irish A'-dependency, and the dependency is captured by some interpretation mechanism in semantics. In the remainder of this paper, for the sake of simplicity, we adopt a less restrictive interpretation of Cheng's (1997) CTH, and assume that under the remnant VP-movement analysis, Irish wh-questions employ operator movement.

### 4.3. How the Two Analyses Treat the Same Syntactic Phenomena

In the above two subsections, we have seen the two totally different analyses in Irish (the head-movement analysis and the remnant XP-movement analysis). In this subsection, we will examine how these two analyses treat three syntactic phenomena relevant to the two analyses ((1) placement of adjuncts, (2) successive cyclic wh-movement, and (3) the copular construction with an AP predicate), and show that as far as these three phenomena are concerned, the two analyses are actually equally tenable.

First, let us examine where adjuncts can be placed in Irish. Observe the example in (35).

- (35) Chonaic sé an madadh rua beag seo ar an chnoc  
       saw he the dog red little this on the mountain  
       inné.  
       yesterday  
       ‘He saw this little fox on the mountain yesterday.’

(35) contains two adjuncts *ar an chnoc* ‘on the mountain’ and *inné* ‘yesterday.’ Under the remnant XP-movement analysis, before the VP moves to TP SPEC, the subject and the object have been moved out of the VP, probably due to Case reasons. Therefore, it is predicted that the remnant VP may contain adjuncts, which do not need to be Case-licensed, and the VP with adjuncts may move across the subject and the object. In fact, this prediction is correct, as shown in (36).

- (36) [Chonaic ar an chnoc inné] sé an madadh rua  
       saw on the mountain yesterday he the dog red  
       beag seo.  
       little this  
       ‘He saw this little fox on the mountain yesterday.’

Although it is not the normal usage, (36) is actually grammatical, when there is a slight pause after the initial verb, at least in the Ulster dialect spoken in Donegal.

On the other hand, under the head-movement analysis, (36) should be derived by movement of adjuncts to the positions higher than the subject, and then, by movement of the verb to COMP across the adjuncts. Note that as adjuncts need not be Case-licensed, the movements of adjuncts are not triggered by feature checking/licensing. It follows then that the grammaticality of (36) suggests, under the head-movement analysis, that Irish may involve a sort of scrambling, which optionally moves adjuncts. Therefore, both analyses equally fare well with place-

ment of adjuncts, although the head-movement analysis will need to posit a sort of scrambling.<sup>11</sup>

Second, let us turn to successive cyclic wh-movement in Irish. (37) is a declarative sentence, and the embedded clause is headed by the [-Q] COMP *gur* 'that.' When the sentence involves wh-interrogative formation, as in (38), the COMPs must change to the direct relative marker *aL*.

- (37) Creideann Máire *gur* cheannaigh Pól an carr.  
believe Mary that bought Paul the car  
'Mary believes that Paul bought the car.'

- (38) Cad é a chreideann Máire a cheannaigh Pól *t*?  
what aL believe Mary aL bought Paul  
'What does Mary believe that Paul bought?'

(38) would be ungrammatical if the COMPs were to remain *gur* 'that.' Based on this fact, McCloskey (1979), among others, claims, under the normal head-movement analysis, that wh-interrogative formation involves movement of a wh-phrase in a successive cyclic fashion by obligatorily making use of an intermediate [-Q] COMP position.

On the other hand, under the remnant VP-movement analysis, two types of movement are involved in (38): (1) A-movement of the wh-phrase *cad é* 'what' to TP SPEC of the matrix clause, and (2) successive cyclic A'-movement of the null operator *Op* within the subject CP, as shown in (39).

- (39) [<sub>CP</sub> C [<sub>TP</sub> Cad é [<sub>T'</sub> T [<sub>XP</sub> [<sub>CP</sub> Op [<sub>C'</sub> a chreideann Máire  
[+Q] what aL believe Mary  
[<sub>CP</sub> *t*<sub>Op</sub> [<sub>C'</sub> a cheannaigh Pól *t*<sub>Op</sub>]]]] X *t*]]]]?  
aL bought Paul  
'What does Mary believe that Paul bought?'

At first sight, (39) looks complex, because there are two distinct movements involved in it: movement of the wh-phrase and movement of the null operator that corresponds to it. However, within this system, (39) does not violate any principles, and is correctly predicted to be grammatical. Therefore, again, both analyses fare equally well with successive cyclic wh-movement.

Third, and finally, let us consider the copular construction with an AP

<sup>11</sup> Note that on independent grounds, Maki and Ó Baoill (2007) propose that Irish does possess scrambling.

predicate. As shown in 4.1, McCloskey (2005) claims that the ellipsis process in the copular construction with an AP predicate indicates the necessity of head-movement. Under the remnant XP-movement analysis, an AP predicate in the copular construction would be moved to TP SPEC, and consequently, the entire AP should survive ellipsis, which is not the case, as shown by (18), reproduced as (40).

- (40) a. An [AP cosúil le taibhse] [DP é]?  
           Q.COP like with ghost him  
           ‘Is he like a ghost?’  
       b. Is cosúil.  
           COP like  
           ‘He is.’  
       c. \*Is [AP cosúil le taibhse].  
           COP like with ghost  
           ‘He is.’

However, under the head-movement analysis, the structure in (40a), to which ellipsis applies, is a problem, as pointed out in 4.1, as the AP predicate, rather than the subject DP, follows the copula. In order to solve this problem, McCloskey (2005) argues, following Doherty (1996), that the AP is base-generated in the surface position, and the DP is right-adjoined to Predicate Phrase (PredP), as shown in (22), reproduced as (41).

- (41) [TP T [PredP Pred [AP A PP] DP]]

McCloskey (2005) argues that A moves to Pred, and then moves to T, just like V moves to T, and this head-movement does not change the surface order among A, PP, and DP. Of course, this is a possible approach to the basic structure of the copular construction with an AP predicate. However, why this is so, that is, why the subject DP is right-adjoined to PredP only in this construction, has not been explicitly explained under the head-movement analysis.

On the other hand, under the remnant XP-movement analysis, the surface order of COP AP DP is precisely derived, because the AP is moved from the position following the DP to the position following the COP. However, as McCloskey (2005) has shown, the remnant XP-movement analysis is faced with the ellipsis problem in (40c). Therefore, as far as the copular construction with an AP predicate is concerned, both analyses would require further justification, and in this respect, they are equally close to the genuine explanation of the phenomenon at issue.



To summarize, the two analyses, which looked totally different at first sight, have turned out to have the same coverage. We need to await further evidence to determine which approach is more promising in investigation into Irish syntax.

## 5. Concluding Remarks

In this paper, we have shown that there are at least two ways to derive the verb-initial order in world verb-initial languages: (1)  $X^0$ -movement (Tongan) and (2) XP-movement (Niuean). Footnote 1 also shows three more ways of deriving the V-initial order: (3) focus movement (Wanyi), (4) movement by the Principles of Information Structure (Riau Indonesian), and (5) lowering of the subject into the VP (Chamorro). The existence of the variety of operations deriving the surface V-initial order thus strongly suggests a *negative* answer to one of the two questions raised in the Introduction: Is there a universal derivation of verb-initial order?

Also, Oda's (2005) observation about the differences in properties between V-movement languages and VP-movement languages summarized in (25) provides another *negative* answer to the other question posed in the Introduction: Are there any typological properties that all verb-initial languages have in common?

However, although there are not any typological properties that all verb-initial languages share, through the investigation provided in this book, at least we have learned that there are common syntactic properties shared by V-movement languages and by VP-movement languages summarized in (25). The next task is then to examine (1) whether the partition in (25) is really correct, and if this is so, (2) what fundamental factor(s) the properties of each type of languages are attributed to.

We have also seen conflicting analyses that account for the verb-initial order within one language, Irish. We examined McCloskey's (2005) analysis based on  $X^0$ -movement and Oda's (2005) analysis based on remnant XP-movement, and reached the conclusion that as far as the three syntactic phenomena relevant to the two analyses ((1) placement of adjuncts, (2) successive cyclic wh-movement, and (3) the copular construction with an AP predicate) are concerned, the two analyses are equally tenable at the present understanding of the properties of the language.

### Appendix: Multiple Wh-Questions and Wh-In-Situ in Irish

In this appendix, we examine multiple wh-questions and wh-in-situ in Irish, and show that native speakers of Irish actually accept both of these.

First, as for multiple wh-questions in Irish, McCloskey (1979: 71) provides (42) and (43) as well as (33), and judges all of them to be ungrammatical.

- (42) \*Caidé aL thug sé do cé?  
       what C gave he to who  
       ‘What did he give to whom?’  
 (43) \*Cé aL bhí ag caint le cé?  
       who C was at talking with who  
       ‘Who was talking with who(m)?’

McCloskey (1979: 70) states that, “I have never come across examples [of multiple wh-questions] in reading or conversation and speakers judge examples that I have constructed [(33), (42) and (43)] to be ungrammatical[.]”<sup>12</sup> McCloskey (1979: 97–98), in footnote 4, adds that, “I have come across one speaker who accepts Multiple Wh-Questions, and one speaker, while not accepting them himself, reports having heard them, particularly from those speakers and in those communities most susceptible to interference from English.”

However, multiple wh-questions in Irish, with one wh-phrase at the left periphery position of the clause, and the other wh-phrases being in situ, are perfectly grammatical in three main dialects of Irish, namely, Ulster, Connacht, and Munster, although the Connacht and the Munster dialects are not as free as the Ulster dialect, as shown below. In the Ulster dialect, (33), (42) and (43) are grammatical. Furthermore, Maki and Ó Baoill (2005) report that all the examples in (44)–(46) are grammatical in the Ulster dialect.

- (44) Cé aL cheannaigh cad é?  
       who C bought what  
       ‘Who bought what?’  
 (45) Cé aL tháinig cá huair?  
       who C came what time  
       ‘Who came when?’

<sup>12</sup> The phrases in [ ] are our own.

- (46) Cé aL chóirigh an carr le cad é?  
 who C fixed the car with what  
 'Who fixed the car with what?'

The Connacht dialect accepts the examples in (47) and (48).

- (47) Cé a dúirt céard?  
 who aL said what  
 'Who said what?'
- (48) Cé a cheannaigh céard?  
 who aL bought what  
 'Who bought what?'

Finally, the Munster dialect accepts the example in (49).

- (49) Cé a rinne cén rud?  
 who aL did what thing  
 'Who did what?'

Therefore, the three main dialects in Irish all allow multiple wh-questions.

Second, as for wh-in-situ in Irish, Carnie (1995: 194) states that (31c), reproduced as (50), is ungrammatical.

- (50) \*Bhuail Cathal cad?  
 hit.PST Charles what  
 'Charles hit what?' (Carnie (1995: 194))

However, native speakers of all three dialects accept (50), as well as (51).

- (51) Bhuail Cathal cad é/céard/cén rud?  
 hit.PST Charles what/what/what thing  
 'Charles hit what?'

If multiple wh-questions and wh-in-situ are possible in Irish, as shown above, Oda's (2005) hypothesis that wh-items in Irish are (always) composed of  $C_{[+Q]}$  and an indeterminate needs to be revised in such a way that in Irish wh-questions,  $C_{[+Q]}$  optionally requires one and only one indeterminate in its local domain (TP SPEC) in overt syntax. Under the revised hypothesis, indeterminates (other than the one which has moved to TP SPEC) may be in situ, and thus, multiple wh-questions are expected to be allowed in Irish.

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