

THE ROLE OF THE CONSERVATIVE LEARNER IN THE RISE AND FALL OF VERB-SECOND*

A I L Í S C O U R N A N E
N E W Y O R K U N I V E R S I T Y

E S P E N K L Æ V I K - P E T T E R S E N
U N I V E R S I T Y O F A G D E R

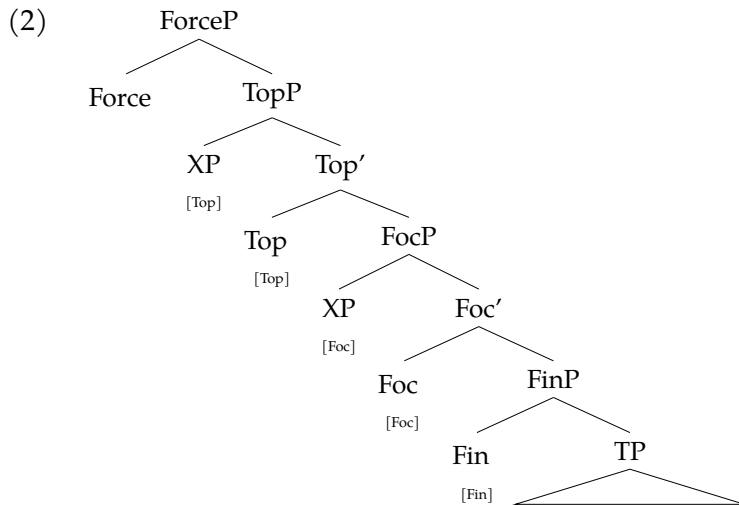
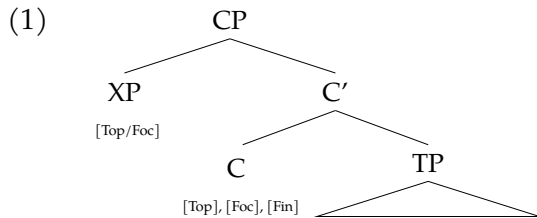
ABSTRACT This paper argues that the diachronic rise and fall of verb-second grammars is tied to the conservative nature of child structure projection and movement postulation, within a Minimalist syntax. For the rise of V2, we propose that children bundle features on a single head in the left periphery, only unbundling (adding projections) with unequivocal input evidence. For the loss of V2, we appeal to the theory that children avoid verb movements, only postulating additional movements with unequivocal input evidence. Interim grammars along the developmental path – with bundled left peripheries or less-moved Vs relative to the input grammars – prescribe latent diachronic pathways available to actuate into community grammars. We assess our predictions for child interim grammars against the acquisition literature and find data consistent with both fewer projections and less movement in child language, relative to adult input grammars. We appeal to changes in the learning context, namely bilingualism in language contact, as the external impetus for the actuation of change, in both our V2 case studies (Rise: Old French, Loss: Germanic Urban Vernaculars). In language contact situations we suggest children are more likely to continue to use interim grammars for longer periods among their peer-groups, inviting innovative syntax to catch-on (or actuate) among young speakers in those speech communities.

1 INTRODUCTION

This paper explores a minimalist syntactic account of V2 phenomena that allows us to simultaneously capture the following three sets of empirical ob-

* For helpful comments and insights at various points in this process, we are grateful to: Naomi Lee, Sandrine Tailleur, Gary Thoms, Ana Pérez-Leroux, audiences at DiGS21 in Tempe, AZ, and DiGS22 in Konstanz, Germany; as well as two thorough and thoughtful anonymous reviewers.

servations: (a) synchronic syntactic phenomena, (b) attested child learning pathways, and (c) diachronic change patterns to and from a V2 pattern, including the social contexts which foster these changes. Our main case studies are the rise of V2 in Old French, and ongoing word-order changes in Germanic Urban Vernaculars, which we argue to be relevant for the understanding of the loss of V2. We maintain that any synchronic analysis of V2 needs to be fully compatible with the dynamic patterns observed in both development and change. This work is necessarily a gestalt approach, rather than a detailed analysis of any one piece of the V2 story, as our primary aim is to find a unified analysis which best captures all three domains. We argue that adopting a bundling approach to the left periphery (1), in contrast to cartographic-type approaches (2), coupled with an emphasis on the acquisitional vulnerability of verb movement, accounts for all three empirical domains of relevance and how they dynamically interact. In brief, our approach uses V2 analyses and case studies to explore a theory of syntactic representations, highly prioritizing the evaluation metrics of realistic language acquisition sources and linking hypotheses to attested syntactic changes observed in E-languages (our approach is highly synergistic with [Biberauer 2017, 2019](#)).



The structure of the paper is as follows. In section 2, we'll first cover the relevant background on V2 syntax description and theory, and our assumptions about the initial state of syntactic representations, with particular reference to V2 phenomena. We'll also lay out our assumptions about how children proceed from the initial state to their language-specific syntactic projections through their input experience. From there, we'll identify potential sources of syntactic change (innovation in child I-languages and actuation of innovation into E-languages) in the acquisition process, sketching a linking model for acquisition and change. Next, we will move to our case studies on the rise (Section 3) and fall (Section 4) of V2, illustrating how our acquisition model works. Section 5 briefly considers the actuation of change before we round off in Section 6 by discussing what is gained for the V2 story and for the child innovator approach to syntactic change, and remaining concerns and questions.

2 BACKGROUND

2.1 *Verb second (V2) – brief description and theory*

In descriptive terms, verb-second is a word order constraint that requires the finite verb to be the second constituent of the clause. This means that the prefield – the domain preceding the finite verb – can and must contain exactly one constituent.¹ This constituent is generally very flexible in terms of syntactic category and function, and generally expresses the topic or the focus of the clause in terms of information structure. The V2 constraint is cross-linguistically rare (see [Holmberg 2015](#)), but observable in all Modern Germanic languages with the exception of English. In these languages, the V2 constraint is active in all declarative main clauses and interrogative wh-clauses, as well as in a subset of embedded clauses. In Modern English and some Modern Romance varieties, the V2 construction applies only in (most) wh-interrogatives and with some cross-linguistic variation in a narrow set of particular constructions, earning these languages the label of 'Residual verb-

¹ All V2-languages allow exceptions from this strong generalisation. Most notably, linear V3 structures are permitted across the board in Germanic V2 languages in the case of initial dislocated elements followed directly by a co-referent resumptive element and then the verb: XP_i – Resumptive_i – verb. The initial constituent of such V3 strings is topical in nature, and a distinction has been made in the literature between 'Contrastive Left-Dislocation' (CLD) and 'Hanging-Topic' dislocations' ([Thráinsson 1979](#), [Frey 2004b](#)). Other linear non-V2 patterns also exist, with some variation across V2 languages ([Klævik-Pettersen 2019a](#): chapter 2). The existence of these linear non-V2 constructions does not invalidate the generalisation that verb-second languages are governed by a general V2 constraint, sometimes called 'structural V2'.

second' languages (Rizzi 1990).²

- (3) [Boken] ZSd jeg lest
 book.DEF have I read
 'The book, I've read.' (Modern Norwegian)

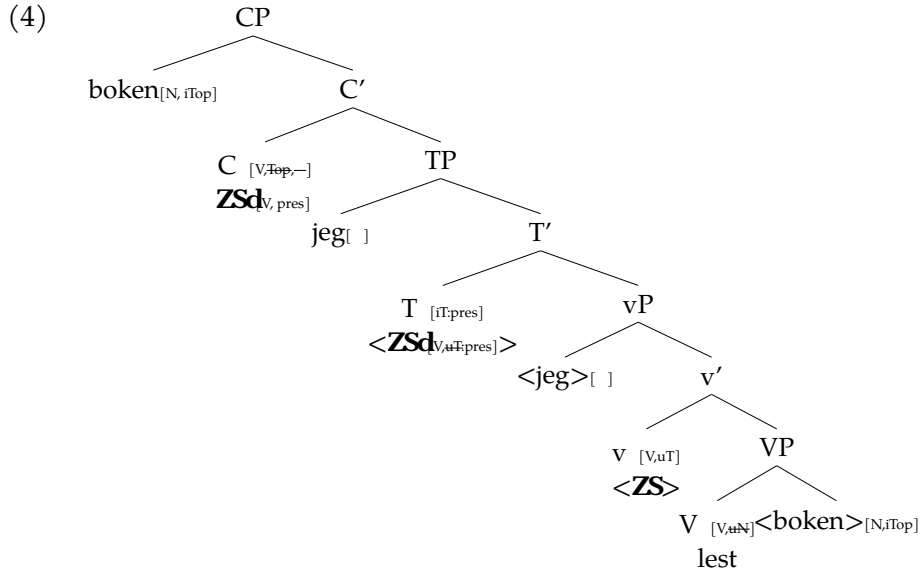
While it is commonplace to refer to V2 as a 'word order rule' or 'constraint', these labels are mere surface descriptive terms.³ The generally accepted analysis of verb-second, based on the work of den Besten (1983), has the advantage of reducing the surface properties of the construction to simple epiphenomena of phrase structure. According to this analysis, an inverted V2 clause like (3) has the derivation illustrated in (4): the finite verb moves to C and the initial constituent is attracted to Spec-CP.⁴ This analysis has the merit of providing a phrase structural representation of the phenomenon which also offers an explanation for the general linear V2 pattern, since the entire clause is considered to be a CP with a single A-bar position available to host the preverbal element in Spec-CP. The constituent in Spec-CP moves to check some information structure/discourse-related feature; both [Topic] and [Fo-

² See Sailor (2020) for a critique of this term, since some of the so-called 'residual' V2 constructions in Modern English, like Negative Inversion, appear to have evolved after the loss of generalised V-to-C movement, thus being innovations rather than retentions. Also, as a reviewer points out, the very existence of structural V2 in the Old Romance languages is called into question by some researchers (Kaiser 2002, Rinke & Meisel 2009, Sitaridou 2019). Moreover, the status of 'residual V2' constructions in other Modern Romance varieties than French is less than clear due to null pronominal subjects (pro-drop), making it hard to determine the exact syntactic position of the verb.

³ A reviewer points out that most researchers assume that V2 is the result of V-to-C movement, which is clearly not a surface descriptive term. This is in fact precisely our point: few if any researchers assume that there exists a grammatical rule that explicitly references linear word order, yet something in the syntax (what the reviewer calls 'structural V2') assures linear V2 effects at the surface level (what we call 'the word order rule/constraint'). V-to-C movement is indeed standardly considered the relevant *explanans*. However, V-to-C does not equal V2, since the former is not sufficient to derive the latter. Klævik-Pettersen (2019a: chapter 2) provides extensive discussion and concludes that the notion of a 'V2-language' is at best a convenient generalisation rather than a stringent theoretical notion.

⁴ The feature triggering the head-movement of the verb is assumed to be *inflectional* in nature (Travis 1984, Holmberg 1986, Roberts 1993, Vikner 1995, Fanselow 2004) and is referred to as [Inf], [Agr], [Fin], [] etc. in the literature. Evidence in favour of the inflectional nature of C has been adduced in the form of *complementizer agreement* phenomena in certain varieties of Continental Germanic (Bayer 1984, Haegeman 1992, Zwart 1993). In (4), Head-Movement is for simplicity shown as replacement rather than adjunction. Chomsky (2001: 37-38) raises the question of whether head-movement is a syntactic operation at all, since the standard adjunction-analysis does not respect the Extension Condition (it does not involve Merge with the root of the phrase marker). For discussion, see Roberts (2011) and Dékány (2018).

cus], with various flavours, are available across the board in Germanic V2 languages.⁵



While this analysis leaves certain questions open,⁶ it has the important merit of providing an explanation for the linear constraint. However, the advent of the cartographic model of the left periphery (Rizzi 1997) has cast some doubt on this simple explanation. The existence of languages that combine several constituents in the left periphery shows that the clause cannot be universally represented as a simple CP. Furthermore, strong generalizations can be made regarding (i) the information structural readings of these left peripheral XPs as well as (ii) their relative order. This suggests we are dealing with specific

⁵ C is presumably equipped with an EPP-feature as well, causing the merger of an expletive or formal movement of the subject to Spec-CP in the case of all-focus clauses. This analysis is consistent with the facts of Northern Germanic without being obviously indispensable, since movement of the verb to C and the subject to Spec-CP is string-vacuous in these SVO-languages (cf. the debate of the status of subject-initial clauses; see Travis 1984 and Zwart 1993, 1997 for arguments in favour of V-to-T, and Schwartz & Vikner 1989, 1996 for arguments in favour of V-to-C), while it is strongly motivated in Continental Germanic: in these SOV-languages, the linear V2 pattern of subject-initial clauses suggests the verb and the subject always move (Frey 2004a).

⁶ A crucial problem is that linear V3 should be possible through adjunction of an element to CP, contrary to fact. This problem was previously solved through a somewhat stipulative ‘ban on CP-adjunction’ (de Haan & Weerman 1986, Iatridou & Kroch 1992, Schwartz & Vikner 1996). In some strains of cartography (Cinque 1999, Benincà & Poletto 2004) this has turned into a ban on adjunction *tout court* – a solution which is preferable on principled grounds. For a thorough discussion of other unresolved issues of the den Besten-analysis, see Klævik-Pettersen (2019a: chapter 2).

projections. However, if the CP is a shorthand for a variety of projections (5), as suggested in Rizzi (1997) and since elaborated upon by others (Benincà & Poletto 2004, Grewendorf & Poletto 2011), the notion of V-to-C movement is no longer precise, nor is it clear why there can (in the general case) be only one constituent in front of the verb in V2 languages, as the ungrammaticality of (6) illustrates:

(5) [ForceP [TopicP*[FocusP [TopicP*[FinP]]]]]

(6) *[I morgen] [jeg] e/S^ lese boken
 in morning I shall read book.DEF

Intended: 'Tomorrow I will read the book' (Standard Norwegian)

The inherent tension between the rich phrase-structural representations of cartography and the very restricted linear pattern found in Germanic V2 languages has not yet been resolved. Logically, two solutions present themselves. Either one can work from the premise that the full array of left-peripheral projections postulated in cartographic work exist in all languages. Within this vein of cartographic literature, a strong hypothesis has gained favour, called the 'One-Feature-One-Head' principle (Kayne 2005), which simply states that the existence of a particular reading, and by extension a particular feature, automatically signals the existence of a dedicated and universal projection responsible for encoding that specific feature (Benincà & Poletto 2004, Rizzi 2013). The other solution is to reject the universalist claim of the cartographic model and to assume that Germanic V2 languages are phrase-structurally impoverished in comparison to Romance style languages like Italian with articulated left peripheries.⁷

In this paper, we adopt the second solution. We interpret the highly restricted prefield of Germanic V2 languages as counter-evidence to the tenet 'One-Feature-One-Head'. We will demonstrate that a simpler and empirically adequate solution is available by assuming that several features may be car-

⁷ The first solution has enjoyed favour with Romanists working on older stages of the Romance languages. The reason is that many of these medieval varieties featured inversion strings of a kind that is not possible in their modern descendants, and which furthermore bears resemblance to the strings found in Germanic V2 languages. At the same time, the linear restriction to a single constituent in front of the verb is not nearly as strict as in Modern Germanic. It is possible to reconcile both of these facts in a cartographic model of the CP by assuming verb movement to some low left peripheral head like Fin, thereby accounting for subject-verb inversion, combined with an articulated CP that is accessible for both scene-setting elements, topics, and foci – thereby accounting for the linear V3, V4 etc. strings (Poletto 2014, Ledgeway 2017, Wolfe 2018). For a critique of cartographic analyses of so-called 'relaxed V2', see Hsu (2017).

ried by the same projection. Furthermore, we go one step further by hypothesizing that this is the default representation for children acquiring language, and that cartographic-like representations only potentially – but not necessarily – arise at a later stage through input experience. We will then argue that this way of conceiving of the acquisition of phrase structure allows us to make sense of diachronic change in word order.

2.2 *Features and Projections: Initial state and acquisition*

We assume that features and projections must be mapped to each other in the acquisition process, mediated by the morphemes and phrases of the input language, and that children are cautious structure builders who look for convincing input evidence before making new syntactic projections in their grammars (cf. [Snyder 2007](#)).⁸ Children’s learning-path grammars contain feature bundles on single projections ([Giorgi & Pianesi 1996](#), [Hsu 2017](#)) that may potentially be unbundled into unique heads, in the sense of [Pannemann \(2007\)](#) (see also [Lee & Cournane 2019](#)), by the discovery that more fine-grained syntactic structure must be projected to account for input patterns (i.e., to host morphemes or phrases in a way that captures word order and reflects the semantics). The default state of the syntax is to bundle by major domain (e.g., DP, CP). Essentially, we decouple the processes of discovering which features are active in one’s input, from that of working out which require distinct projections.⁹

The successful mapping of a feature to a projection might be innocuously referred to as a ‘parameter’, as long as the term is used descriptively with no expectations of concomitant ‘cluster effects’. The discovery of features with interpretive effect, in the case of verb second typical A-bar-features like [Topic] and [Focus] – with many sub-flavours which must also be represented through features – does not lead children to postulate more structure, only to be attentive to that feature and recognize it plays an active role in their input language. We further assume children perceive that these various features are associated in different clauses with the single element in the pre-field of the finite verb, and hence ‘bundle’ these features on the head of the relevant projection, in this case the CP. This does not mean that the head C

⁸ In spirit our approach is like [Snyder \(2007\)](#), but his proposal concerns conservativity of parameter setting, while we are focusing on conservativity of structure projection.

⁹ For example, there is reason to ask if some features are absent completely from certain domains. In modern vernacular French, left peripheral foci are extremely marginal ([Larrivéé 2020](#)), focus being primarily expressed through clefts. This might suggest that, at least for some I-grammars, there is no focus-feature at all in the C-domain. This is not surprising on our view, but something that needs an explanation if a left-peripheral focus-projection is universally available.

[Fin], [EPP]	[Focus]	[Topic]
	[Contrastive]	[Contrastive]
	[Mirative]	[Shifting]
	[...]	[...]

8YgdW# A feature bundle on

will carry all the different features in the derivation of any given clause, since that would lead to gross incoherence at the interpretive component. Rather, it means that children postulate a lexical entry for C which contains a structured feature bundle, and then a subset of these features are chosen for the derivation of any clause involving the head C.¹⁰

In addition, in a V2 language, the merger of C invariably triggers movement of the verb in main clauses regardless of what other features are chosen, so this feature (conventionally represented as a finiteness-feature) is associated directly with this head. Apart from this feature, which is uniquely associated with C in V2 languages,¹¹ we hypothesize that this is the initial representation of CP for all children, positing that children bundle all C-domain

¹⁰ Questions arise, such as what it means for a lexical entry to have a structured list like in Figure 1. It could be that the features are represented without any internal structure and that the derivation simply crashes at LF if incompatible features are chosen. Most importantly, the features [Topic] and [Focus] cannot be chosen simultaneously, but there are also no *mirative topics* nor *aboutness foci*, as far as we are aware. Notice also that, although a cartographer might assume dedicated functional projections for different kinds of topics like *aboutness topics*, *shifting topics*, *contrastive topics*, etc., these are not unitary features, as a ‘One-Feature-One-Head’ approach would have it, but rather different features combined with the feature [Topic]. The same applies to different kinds of foci. In other words, even fine-grained cartographic projections seem to presuppose feature-bundles. Rizzi (2013: 198) stresses that complex heads are not incompatible with cartography, but also suggests that these only arise through incorporation via Head-to-Head-Movement.

¹¹ A reviewer asks how *Stylistic Fronting* or expletive subjects are accounted for by the feature bundle in figure 1. As for the latter, we conventionally assume that the C-head is directly equipped with an EPP-feature which can trigger formal movement of the subject or the merger of expletives. Stylistic Fronting, apart from being very marginal in Modern Germanic outside Icelandic (Holmberg 2006, Thráinsson 2007), is predominantly an embedded phenomenon with an unclear landing site, and perhaps a PF movement operation altogether. Therefore we take no stance here on whether Stylistic Fronting involves the C-head at all; see Klævik-Pettersen (2019a: chapters 3 and 4) for the claim that SF does not reach the C-domain in Old French.

features until they encounter enough robust evidence that certain features require distinct projections. Such evidence could be the co-occurrence of a fronted topic and a focus in the same sentence, where two constituents need to be hosted. When confronted sufficiently with strings of this kind, the children will eventually unbundle (‘unravel’ in [Pannemann 2007](#)) the feature bundle and postulate two distinct heads *Top* and *Foc*. Concretely, this means that we hypothesize that even children learning a language with a rich left periphery (e.g. Italian) pass through bundled phases before they eventually acquire the articulated structure of their input language’s left periphery. The learning task is not just mapping linguistic material to available projections by feature/function (as in cartography), but also creating new hosting projections if and only if required to capture morpheme or word order patterns of the input language. We decouple learning that a feature is active in the input language from learning that a feature requires a projection of its own to host input linguistic material.

In strict V2 languages of the Modern Germanic kind, the necessary evidence to unbundle and create new LP projections is simply never forthcoming,¹² such that the default feature bundle solidifies into the mature state of the grammar. If this hypothesis on the acquisition of phrase-structure is on the right track, we speculate that this can help shed some light on the extraordinary diachronic ‘inertness’ of Germanic V2 grammars, which on available evidence seem to have kept the V2 constraint virtually unchanged for a millennium (but for the partial exception of English), in the midst of a series of other profound syntactic changes ([Eythórsson 1995](#), [Axel 2007](#), [Walkden 2015](#)).¹³ If feature bundles represent the default representation, a relatively homogeneous speech community will produce little that could be affected by reanalysis by the next generation of acquirers. Notice that such inertness should not hold for an articulated left periphery, since the feature bundle in CP that children originally postulate must be unbundled during child development by positive evidence of co-occurrences of multiple left peripheral constituents. It is an uphill struggle against an entrenched defender, since

12 Again we must stress that there is evidence for more than one position in the C-domain, in the case of left-dislocation structures with linear V3 order:

- (i) [Boken], [den] ZSd jeg lest
 book.DEF that have I read

There is in other words an additional slot for dislocated elements, and the features here are much less diverse than in the immediate prefield, since dislocated elements are seemingly always topical in nature (see fn. 1).

13 This is simplifying somewhat. In some dialects, the linear V2 pattern seems if anything to have strengthened over historical time ([Axel 2007](#), [Petrova 2012](#), [Demske 2018](#), [Speyer & Weiß 2018](#), [Catasso 2021](#)).

\$PVSOBOF ,M—WJL 1FUUFSTFO

UIF FWJEFODF GPS BO BSUJDVMBUFE MFGU QFSJQIFSZ NVTU SFC
GFBUVSF CVOEMF JO FWFSZ TJOHMF HFOFSBUJPO 5IFSF JT OP H
EFODF XJMM CF TVëDJFOUMZ GPSUIDPNJOH PWFS MPOHTUSFUDI
BIPNPHFOFPVT 7 DPNNVOJUJZ UIF QSJNBSZ GFBUVSF CVOEMF J
5IF PUIFS QSPQFSUZ PG 7 HSBNNBST 7 UP \$ NPWFNF OUPG UI
TIPVME CF NPSF WVMOF SBCMF UP DIBOHF 'PS FYBNQMF &OHM
\$ NPWFNF OUPG FYDFQU GPS JO UIF TP DBMMFE q3FTJEVBM 7 r DPC
JT UFNQUJOH UP TQFDVMBUF UIBU JU IBT LFQU UIF GFBUVSF CVO
XPVME FYQMBJO XIZ &OHMJTI MJLF UIF (FSNBOJD MBOHVBHFT X
UBJOFE 7 JT BMTP BWFSTF UP DPNCJOJOH TFWFSBM DPOTUJUUV
FSZ

5IJT CPPL UP +0)/ *rMM HJWF OPU UP ."3:

5IF SFBTPO 7 UP \$ TIPVME CF WVMOF SBCMF UP MPTT BMTP GPM
PG BDRVJTJUJPO XIJDI IPMET DIJMESFO UP CF DBVUJ PVT TUSVDI
UIF GFBUVSF CVOEMF XIJDIDBO TVSWJWF BT MPOHBT UIFSF JT C
BHBJOTU JU UIF 7 UP \$ NPWFNF OUPG NVTU CF BDRVJSFE BGSFTI G
EFODF OBNFMZ GSPN JOQVU TVCKFDU WFSC JOWFSTJPO TUSJO
EFGBVMU GPS WFSC QPTJUJPO JT JUT NFSHF QPTJUJPO BOE TUS
NVTU CF DSFBUFE GSPN QPTJUJWF FWJEFODF EVSJOH EFWFMPQM
CVOEMFE QSPKF DUJPOT JO UIF -1 BOE XJMM UIFSFGPSF CF PQF

-JOLJOH 5IFPSZ GPS "DRVJTJUJPO BOE \$IBOHF

8F BTTVNF B DIJME JOOPWBUBS VSCCESPBDH TS* OUBDUJD
DIBOHF -MHLUGPP3PCFSUT 3PVTWBVO (FMEFS4OZ
EFS ,PEOFS J B BOETP BTLXIFUIFSBOE IPXDIJME MFBSOFS
IBWF DSFBUFE UIF OPWFM HSBNNBST JOWPMWFE JO UIF SJTF BOE
-JHIUGPPU 8FTUF8HFBBSHBBSEPTU \$" SFTFBSDI DPN
QBSFT UXP EJêFSJOH * MBOHVBHFT JO B EFTDFOU SFMBUJ POTI
EJTUJODU BEVMU TUBHFT JO EJBDISPOZ BOE JOGFST UIBU UIF
DBNF BCPVU GSPN B SFMFWBOUMZ EJTUJODU FYUFSOBM JOQVU
UJPO XJUI QPTUVMBUJPOT BCPVU TZOUBDUJMBUJ FFSZ J F FDP
(FMEFSFO 'PS FYBNQMF JO -JHIUGPPU rT DVF CBTFE QBSBNFUS
UPTZOUBDUJJDHUBCPFU DG UIF USJHHF \$JOTPN
8FYMFS B HSBNNBUJDBM TFUJJOH MJLF < 7 > DPNFT BCPVU GSP
XJUI UIF JOQVU TFOUFODFT UIF DIJME TFUT B QBSBNFUFS PO UI
B QBSUJDVMBSTFUJJOH JT DVFE CZ UIFJS JOQVU J F JT SFRVJ
BDDPVOU GPS UIF JOQVU TFOUFODFT 'PS FYBNQMF BTTVNJOH

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

QBSBNFUF S UIF DVF GPS 7 JT OPO TVCKFDU JOJUJBM DMBVTFT
aHVSBUJPO

\$VF CBTFE 7 QBSBNFUF S SFTFUUJOH
*OQVU (SBNNBS 7 B *OOPWBUJWF (SBNNBS 7
\$VF GPS B 7 HSBNNBS \$a <e>
\$BVT F PG \$IBOHF *OTVêDJFOU JOQVU DVFJOH GPS 7

8FTUF SHBBSE EFN POTUSBUFT UIBU UIJT LJOE PG NBDSPQBSBNFU
QPXFSGVM 7BMFJBM TBT MBOHVBHFT TIPX HSBNNBUJDBMMZ DPOE
7 TVC WBSJBUJPO BOE FWFO WFSZ ZPVOH DIJME QSPEVDUJ POT
UIJT WBSJBUJPO 4IF BSHVFT GPZONJDS PBQBSBNBUFTST
DJBUE NJDSP DVFT BEPQUJOH UIF DBSUPHSBQIJD 4QMJU \$1 M
F H XJUI DVFT BTTPDJBUFE XJUI *OUFSSPHBUJWF1 5PQJD1 SE
\$1 BT GPSIUGPPU 0O UIJT DVF CBTFE NJDSP QBSBNFUSJD NPEF
BDISPOJD DIBOHF JT NPEFMME BTEJêFSFOU QBSBNFUSJD TFU
NBST JO B EFTDFOU SFMBUJ POTIJQ 5IF NFDIBOJTN HJWJOH SJT
JT UIF DIJME TFU UJOH B NJDSP QBSBNFUF S EJêFSFOUMZ GSPN U
5P FYQMBJOXIZ QBSBNFUFST TPNFUJNFT HFUTFU EJêFSFOUMZ
GPPU BOE 8FTUF SHBBSE BQQFBM UP UIF GBDU UIBU FWFSZ JOEJ
JOQVU FYQFSJFODF JOOPWBUJWF TFU UJOHT XPVME BSJTF XIF
QVU FYQFSJFODF UIBU GBJMT UP DVF GPS B TFU UJOH UIBU XBT I
FSBUJ POT *O 8FTUF SHBBSE rT XPSET s*G UIF GSFRVFODZ PG B
CFMPX B DFSUBJO MFWFM DIJMESFO NBZ JHOPSF JU BOE UIF DPS
DPOaHVSBUJPO XJMM CF MPTU GSPN UIF MBOHVBHF PG UIF OFY
Q TFF 4CMTF S GPS BO JOUFSFTUJOH BMUFSOBUJWF DBVT F
MFBSOJOH UIFPSZ 5IJT JT B SFBTPOBCMF JEFBMJ[BUJPO PG
QBUUFSOT CFUXFFO TUBUJD HFOFSBUJ POT CVU JU JT OPU GVM
XF TFF IBQQFOJOH JO JOEJWJEVBM DIJMESFO rT MBOHVBHF VTB
& MBOHVBHFT

8F EP OPU TFF DIJMESFO CFIBWJOH VOJGPSNMZ VOMJLF UIFJS
UJPO UISPVHIPVU UIFJS EFWFMPQNFOU OPS EP XF TFF FWJEFO
JO HSBNNBST CFUXFFO HFOFSBUJ POTJTB G: BHOH
-BCPW)FZPDL 8BMMFOXBMSNH BNPOHNBOZ PUIFST *O
DPOUSBTU UP UIF DVF CBTFE QBSBNFUSJD BQQSPBDI XF BTTVM
DIJMESFO JHOPSFJOH DVFT UIBU IBWF CFDPNF MPX GSFRVFODZ J
NBZ KVTU BDRVJSF UIFTF BTQFDI BTOPCSU PFSJHOCVUSM BUJFST BOE

"MUFSOBUJWFMZ UIFZ NBZ CF TMPX UP DPSSFDU OPO UB SHFU BOBMZTFT UIFZ
JOQVU GSFRVFODZ JT OPU UIF DBVT F PG UIF DIJMESFO rT FSSPST CVU JU JT BSI
UFSO BQQFBST JO UIF DIJME HSBNNBS MPX JOQVU GSFRVFODZ NBZ NBLF UIJT Q
QFSJPE PG 8FTUF SHBBSE #FOU[FO

\$PVSOBOF ,M—WJL 1FUUFSTFO

JO BO BEEJUJWF PS EJHMPTTJD GBTIJPO J F NBJOUBJOJOH UIF
SFQMBDJOH JUIFSLBMT#PT(BSZ5IPNT Q D \$IJMESFOR TTZO
UBDUJD TUBHFT UZQJDBMMZ PWFSMBQ BOE TIPX QSPUSBDUFE W
PG UBShFU BOE OPO UBShFBG)ZSNT F H OH
PS TJHOJaDBOUMZ OPO BEVMU\$BEBFBEGSPBSOBUJPO F H
)BMM 5IJT TUBUF PG BêBJST DBO QFSTJTU XF TFF TQFBLF
FST PG BMM BHFT VTJOH CPUI JOOPWBUJWF BOE DPOTFSWBUJW
TQFBLFS WBSJBUJPO BOE B DIBOHF JO EJTU,SPOV UJPOT PG WBSJ
:BOH J B

5IF NBKPS DPNQPOFOUT PG IPX XF WJFX UIF SFMBUJJPOTIJQ C
JOH BOE DIBOHF BSF B JOOPWBUJWF QSPQFSUJFT PG DIJME * M
UPVT C JOEJWJEVBM DIJMESFONBZ DPOUSJCVUF UIFJS JOOPW
DPNNVOJUZ BOE BMTPTUJMM MFBSO UIF DPOTFSWBUJWF HSBNN
JOUSB TQFBLFS TZOUBDUJD WBSJBUJPO BOE D DIJME TPDJBM
UJBM UP BEE UP UIF NJY GPS BUIFPSZ PG DIJME MFBSOFSESJWFC
BEESFBDRVJ&JPOSFJDI -BCPW)F\$FPHZOB 4BO[

4¾ODIGPSUIDPNJOH GPS BTZOF SHJTUJD BQQSPBDI UP DIJME E
*OOPWBUJPO JT V CJRVJUPVLEFVSZJHOVBSGJWH SHFOU HSBN
NBUJDBM SFQSFTFOUBUJPO EVSJOH EOVPMBOMFOU UP CFB TZO
\$PVSOBOF BC-FF \$PVSOBOFFF BMTCP\$BVF\$

"OZ SFQSFTFOUBUJPO JO B DIJMErT NFOUBM HSBNNBS
TJTUFOU XJUI UIF SFQSFTFOUBUJPO PG UIFJS JOQVU TQFBLFST
HSBNNBUJDBM SFQSFTFOUBUJPO OPWBUJJPOT UP JOQVU EJWF SHF
EFST BMM DIJME MFBSOFST JOOPWBUPST PO UIFJS MFBSOJOH QB
TUBSU BU UIF TBNF CFHJOOJOH BOE HP UISPVHINBOZ TUBHFT P
SFQSFTFOUBUJJPOT EVSJOH UIF NVMUJ ZFBS BCEVDUJWF BOE D
MFBSOJOH UIFJS NFOUBM HSBNNBST GS\$SVD\$BMMQVU FYQFS
JOQVU EJWF SHFOU SFQSFTFOUBUJJPOT JO DIJME MFBSOFST QS
M BUFOU EJBDISPOJD JOOPWBUJJPOT

*O BDRVJTJUJPO SFTFBSDI JOQVU EJWF SHFOU HSBNNBUJDBM SFQSFTFOUBU
PS OPO UBShFU PS OPO BEVMUMJLF XFBWPJE UIFTF UFSNT CFDBVTF B UIF B
BDRVJTJUJPO SFTFBSDI TJODF FBSMZ EBZT IBT CFFO UIBU UIFSF JT B TUBCMF
DIJME XJMM BUBXO F XIJDI XBT B OFDFTTBSZ TJNQMJaDBUJPO UP CFHJO UP
EFWFMPQNFOU JT B JODPOTJTUFOU XJUI UIF DIJME JOOPWBUPS BQQSPBDI U
C UIFZ JNQMZ UIBU DIJMESFOR T HSBNNBST BSF JODPNQMFUF qXBJUJOHr PS J
TUBCMF UBShFU XIFO PGUFO XIFO FYBNJOFE BT JT UIFSF JT OP SFBTPO UP DF
PUIFS UIBO WJBCMF HSBNNBUJDBM TFUJJOHT JOBVFODFE CZ UIF JOQVU UIF M
TUBHF JO EFWFMPQNFOU

.PTUJOQVU EJWF SHFODFT GPS NPTU JOEJWJEVBMT XJMM CF MPTU XJUI GVSU
FYQFSJFODF OFJUIFS SFNBJOJOH JO UIBU JOEJWJEVBMrT HSBNNBS QB TU DIJ
PUIFS TQFBLFST *O PUIFS XPSET JO SFUSPTQFDU NPTU JOQVU EJWF SHFOU
UJPOT XJMM OPU CFDPNF JOOPW B B M F OT JO UIF & MBOHVBFH

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

\$IJMESFO IPME POUP MFB \$IQJCHS FOJ UM JLSFBNNBMSUT NBZ DPN
NBOE NVMUJQMF EJTUJODU HSBNNBST PS HSBNNBUJDBM TFUUI
USVF JO UIF DBTF PG CJMJOHVBM BDRVJTJUJPO XJUIMFBSOFST
GSPN FBS MEZSBJT (FOFTFB " HSPXJOH CPEZ PG MJUFSBUVSI
BMTPTIPXT QSFTDIPPMFST BOE FBSMZ TDIPPM BHF DIJMESFO V
WBSJBUJPO JO MJOF XJUI QBUUFSOT PG TPDJPMJOHVJTUJD WBS
NVOJUJFT ANFUHI %VSIBN 'PSUV"OE NPTU SFMFWBOU GPS VT
DIJMESFO PGUFO BQQFBS UP VTF NVMUJQMF FBS BNNBST FWFO G
PG UIFJS JOQVU F H QSPEVDJOH CPUI TFOUFODFT XJUI BOE X
FMFNFOU 5IJT GBDU BCPVU DIJMESFO T QSPEVDUJWF MBOHVB
DJTN \$UPNT LZ QBSBNFUFST UIFPSZ 'PSFYBNQMF DIJMESFO M
BOPO OVMM TVCKFDU MBOHVBHF MJLF &OHMJTI JOJUJBMZ QSP
TFOUFODFT BOE POMZ HSBEBVMMZ PWFS UIF DPVSTF PG ZFBST B
MJLF SBUFT BOE FOW JZSPT OFM J B 5IJT JT JO
DPOTJTUFUO XJUI BEFUF SNJOJTUJD WJFX PG QBSBNFUFS TFUUI
DIJMESFO BDDFTT UIF SFMFWBOU DVFT GSPN UIFJS JOQVU FYQFS
TIPVME SFbFDU UIF TFU QBSBNFUFS

.BOZ QSPQPTBMT FYJTU GPS IPX UP SFDPODJMF QBSBNFUFS T
UIF HSBEBVMOFTT PG FNQJSJDBM WBSJBUJPO JO DIJME QSPEVD
)ZBNrT NJT TFUUIJOH QSPQPTBM 4PNF BUUSJCVUF DIJMESF
QSPEVDUJPOT UPOO TZOUBDUJD Q#FNSPIS BOZ FDPOTUSBJOUT
EFS BSHVFT DIJMESFO BWPJE TFUUIJOH QBSBNFUFS BOE UIF
UIJT BWPJEBODF VOIJM UIFZ BSF DFSUBJO PG UIF HSBNNBUJD
UFSOT PCTFSWFE JOBNFBSJJOE M \$P:G DFFSW BUSHTWFT
UIBU QBSBNFUFS TFUUIJOH JT QSPCBCJMJTUJD DIJMESFO FOUR
QBSBNFUFS BOE QSPCBCJMJTUJDBMMZ QSPEVDF TFOUFODFT G
NPEFM SFXBSET HSBNNBST UIF JOQVU JT DPOTJTUFUO XJUI HSB
XFJHIU PG UIF UBShFU HSBNNBS 8IJMF OPO QBSBNFUSJD PVS Y
JMBSBUPH CFDBVTF XF UBLF UIFSF UP CF UXP HSBNNBST BDUJ
DIJME QSPEVDUJPOT SFbFDU WBS JZCOMBVT FBMGVFOUFS HF BMTPT

5IFSF JT BMTPTUSPOH DPNNPOBMJUJZ PG TQJSJU CFUXFFO
UIF q.BYJNJTF .JOJNBM .FBOTr .#J BQQSPBIDIPG
BT CPUI BQQSPBDIFT JDBQJWBMOF BBOJ MFUJEP DIJMESFO UP
PWFSFYUFOE BOBOBMZTJT POMZ HSBEBVMMZ SFUSBDUJOH BT U
EJTUJODUJPOT JO UIF JOQVU -JLF VT #JCFSBVFS BMTPTMJOLTT
SFTFOUBUJPOT JO DIJME MBOHVBHF UP BUUFTUFE EJBDISPOJD I
UFSJN OPO UBShFU MJLF FNCFEFE 7 JO XI JOUFSSPHBUJWFT
NBOUP UIF HFOFSBM BWBJMBCJMJUJZ PG 7 JO FNCFEFE XI DMBV

#JCFSBVFS BMTPTIZQPUIFTJ[FT UIBU MBOHVBHF DPOUBDU NJHIU IBWF CFFO JO
PG FNCFEFE 7 JO "GSJLBBOT " EJêFSFODFCFUXFFO PVS BQQSPBDIBOE #JCF

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

UFSOT DIJMESFO UFOE UP VTF HSBNNBST UIBU XPVME CF EJBD
UJWF GPS UIFJS JOQVU MBOHVBHF FBSMJFS PO UIFJS MFBSOJO
F H UIFZ BDRVJSF NPOPDMBVTBM TUSVDUVSFT QSJPS UP CJD
NPOPDMBVTBM JT B DPNNPO TZOUBDUJD DIBOHF UIF SFWFSTF
POUPHFOZ TIPVME SFDBQJUVMBUF QIZMPHFOZ

'JHVSF.PEFM PG TZOUBDUJD *OOPWBUJPO "DUVBUJPO GSPN U
1BUI

8F DMBJN UIBU MFBSOFST XIP IPME POUP UIFJS JOQVU EJWFSH
BOBMZTFT BOE VTF UIPTF HSBNNBST XJUI UIFJS QFFST DBO SF
HVBHF rT GVUVSF GSPN UIFJS MFBSOJOH QBUI 8F XJMM BTTFTT C
PG 7 BHBJOTU MFBSOJOH QBUI QIFOPNFOB

\$ 8# 4:<"A 5'# 7(8# 3% 7 (1 0." '7#1 '

8F OPX UVSO UP EJBDISPOZ BEESFTTJOH UIF RVFTUJPO PG XIFU
OPWBUPS TUPSZ QSFTFOUFE BCPWF DBO QSPWJEF JOTJHIUT JOU
UPSJDBM DIBOHF 8F UIFSFGPSF CSJFbZ DPOTJEFS UIF DBTF PG
BDDPSEJOH UP NBOZ SFTFBSDIFST QSFTFOUFE B GVMM 7 TZTU
UVS'ZBNT 3PCFSUT7BODF 3PVWFSF4BMWFTFO
,M—WJL 1FUUBST8FO

"MUIPVHI JU NJHIU TFFN NPSF OBUVSBM UP MPPL BU UIF SJTF PG 7 JO (FSNBOJ
PG 7 JT VOEJTQVUFE BOE CFTU VOEFSTUPPE JU JT VOGPSUVOBUFMZ UIF DBT
(FSNBOJ QSFIB TUPS JD DIBOHF PTTJCMF FYD BQUJPSITPC CBUJJD
FBSMJFTU BUUFTUFE TPVSDFT PG (FSNBOJ DBMSF BZUTBNUPQ SFTFOU UIF 7 C
"YFM 8BMLEFO 8F NVTU UIFSFGPSF MPPL FMTFXIFS BOE UIF -BUJO 3PN
IJTUPSJDBM DPSQVT QSPWJEFT UIF OFDFTTBSZ DPOUJOVJUZ BMUIPVHI XF DF
JaFE DPOKFDUVSF UP SFDPOTUSVDU UIF TUBHFT PG UIF DIBOHF IFSF BT XFMM

\$PVSOBOF ,M—WJL 1FUUFSTFO

TZODISPOJD OBUVSF PG UIF 0ME 'SFODI 7 TZTUFN XIJDI GVODU
TJNJMBS BMUIPVHI OPU FOUJSFMZ JEFUJDBM GBTIJPO UP 7
)FSF XFGPDVT SBUIFS PO IPX UIJT TZTUFN DPVME IBWF BSJTFO
ESFO NBZ IBWF QMBZFE JO CSJOHJOH JU BCPVU

5IF aSTU JNQPSUBOU PCTFSWBUJPO JT UIBU OPU POMZ 0ME 'S
0ME 3PNBODF JO HFOFSBM GFBUVSFE XJEFTQSFBE TVCKFDU WF
JO .PEFSO 3PNBODF TVDI JOWFSTJPO XBT OPU SFTUSJDUFE UP
UJPOT PS TQFDJaD QSFEJDBUFT GPS JOTUBODF JOUSBOTJUJW
OBUJPO GPS UIJT JO GBWPVS#FOJOD 1/2- FEHFXBZ 1PMFUUBPMGF

JT UIBU BMM PG UIFTF
MBOHVBHFT IBE EFWFMPQFE HFOFSBMJTTFE 7 UP \$ NPWFNFUO)
BOPUIFS XBZ JO XIJDI 0ME 'SFODI JT TQFDJBM OBNFMZ JO CFJO
UIBO UIF PUIFS WBSJFUJFT XJUI SFTQFDU UP UIF OVNCFAST PG DI
PG UIF WFSC 8IJMF PUIFS 0ME 3PNBODF WBSJFUJFT TFFNJOHMZ
7 PS FWFO NPSF JO MJCFSBM GBTIJPO 0ME 'SFODI HFOFSBMMZ S
UP BTJOHMF DPOTUJUUVFOU UIFSFCZ PCFZJOH TPNF LJOE PG qM

<NJFWP>VE SKPNP S BSIPOP SRVFWJWBSRPOUF
CFUUXSVME* EJF JOIPOP USIB @JWFOTIBNF
q* XPVME SBUIFS EJF XJUI IPOPVS UIBO MJWF JO TIBNF r
-F 3PNBO EF 5SJTUBOIFSO & SPVFSOJT

5IF UBTL JT UIFSFGPSF UP FYQMBJO CPUTJNJMBSJUJFT BOE EJê
'SFODI BOE JUT NFEJFWBM TJTUFMS MBOHVBHFT 4JODF HFOFSBM
MJLF B QBO 3PNBODF PDDVSSFODF JU JT OBUVSBM UP BTTVNF
TIBSFE JOOPWBUJPO BU B SFMBUJWFMZ FBSMZ TUBHF *OEFFE
JOJUJBM HSBNNBS IBT CFFO EFUFDUFE JOF-BHUFX-BZ JO JOEFQFOE

BO, M—WJL 1FUUFSTFO F B M TRVJ *O UIF MBUF

UI DFOUVS ZJUFYSUBSJVNB & HOF S MBV TFT QSFEPNJOBOMZ TIPX 740
PSEFS)PXFWFS UIFSF JT DFSUBJOMZ OP SFTUSJDUJPO PO UIF
JT TPNFUJNFT BDDFTTFE CZ B TJOTMIFUDJNFTUCJZUM FOUJQMF
DPOTUJUUVFOU

+VTU MJLF JO .PEFSO (FSNBOJD FYDFQUJPOT FYJTU BOE IBWF CFFO QPJOUFE
MJUFSBUMTSF 3JOLF .FJTFM MTJH \$SUBJO BEWFSC XFSF JOWPMWFE JO
MJOFBS 7 TUSJOHT BOE JOJUJBM TVCPSEJOBUF DMBVTFT XFSF HFOFSBMMZ
TVCKFDU WFSC TFRVFODF 8IBUFWFS UIF QSPQFS BOBMZTJT PG UIFTF TUSJO
IJTUPSJDBM DPSQVT EPFT TPNFUJNFTUCJZUM FOUJQMF
*O FSHPB8BDLFSOBHFM DMJUJD UIBU BUUBDIFTUP UIF aSTU XPSE OPUDPOT
BU 1'

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

0TUFOEJBUJDNPCJTBODEUQTDPQVFNPSJBN

TIPX 57%BMT " IPMZ CJTIPQ UPNC

"HHBSJe

"CHBS

q5IF IPMZ CJTIPQ BMTPTIPXFE VT UIF UPNC PG "CHBSer

*UJOF SBSJVN &HFSEBESBOWBM

BURVJFUSBUB PSBUJPCOFFEJYOT

BOESFQFBU 58: QSBZFSCMFTT 57% 8&

FQJTDPQVT

CJTIPQ 130

q"OE BGUFS BOPUIFS QSBZFS UIF CJTIPQ CMFTT FE VT r

*UJOF SBSJVN &HFSEBESBOWBM

"D <TJESHP <BOWRWF> <JCJ>FOVJU

BOEIVT TPNFUXP EBZ QFSUPFSLFFQ 57% 8&

OPT TBODEUQTDPQVT e

VT IPMZ CJTIPQ 130

q"OE UIVT UIF IPMZ CJTIPQ MPEHFE VT UIFSF GPS BDPVQMF P

*UJOF SBSJVN &HFSEBESBOWBM

5IF OFYU RVFTUJPO JT UIFSFGPSF IPX UP BDDPVOU GPS UIF TQF

'SFODIXJUISFTQFDUUPMJOFBSPSEFS)FSF XFXJMM SFMZPOU

PVU,MO-WJL 1FUUFCSXFD TFFT QSPMPOHFE JobVFODFGSPNOME'S

DPOJBOJO UIF .FSPWJOHJBOFSBBTUIFEFDJTJWFGBDUPSJOUI

QSFaFME 8F SFGFS UP UIF QBQFS GPS BNPSF EFUBJMFE IZQPUIF

HVJTUJD EZOBNJDT PG UIF CJMJOHVBM TQFFDI DPNNVOJUZ BOE

EFDMJJOH SPMF PG UIF OME 'SBODPOJBO TUSBUVN

-FU VT TVQQPTF UIF FYJTUFODF PG B SFMBUJWFMZ IPNPHFOF

TQFFDI DPNNVOJUZ JO UIDFOUVSZ 'SBODF XIJDIIBE JOIFSJUFI

TZTUFNGSPN-BUF-BUJO "UTPNFTUBHFPGEFWFMPQNFOU UIFT

NVTU IBWF CFFO BOBMZTFE CZ DIJMESFO BT 7 UP \$ NPWFNFOU P

UIFSNPSF PVS UIFPSZ QSFEJDUT UIBU DIJMESFO XPVME IBWF JO

GFBUVSF CVOSMTPSDUJOH UIF QSFaFME UP BTJOHMF NVMUJG

)PXFWS UIF NVMUJQMZ BDDFTTJCMF \$ EPNBJO PG -BUF -BUJO

OME'SFODIBTXFMMBTJOPUIFSOME3PNBODFWBSJFUJFT NFBOJ

PG UPQJDT BOE GPDJ XFSF TVëDJFOUMZDSFFBOUqJOUIF JOQV

6OGPSUVOBUFMZ OPUFYUVBMSFDPSE JO UIF WFSOBDVMBS FYJTUT GSPN UIF

VTUPESBXDPODMVTJPOTCBTFEPODPNQBSBUJWFSFDPOTUSVDUJPO *OUIJT

TFU JODMVEFTJOWFSTJPO JO BMM CSBODIFT PG OME 3PNBODF BOE B NVMUJG

FSZ JO BMM CSBODIFT FYDFQU8SINRDMEGSBSBSIHVNFOUT JO GBWPVS PG

\$PVSOBOF ,M—WJL 1FUUFSTFO

CVOEMJOHr MFBSOJOH FWFUO XIFSFCZ DIJMESFO XPVME SFBTT
UVSFT MJLF <5PQJD> BOE <'PDVT> PO JOEJWJEVBM QSPKFDUJPO
UJPOTIJQ UIFSFCZ FYUFOEJOH UIF QISBTF NBSLFS)PXFWS U
HVB MJTN JO /PSUIFSO 'SBODF GSPN UIF UIDFOUVSZ POXBSE XJ
UIF JOQVU UP OFX HFOFSBUJPOT PG BDRVJSFST "U aSTU POMZ N
JOJUJBM TUBHF PG CJMJOHVBMJTN JO BMM MJLF MJIPPE QSJNBSJ
TJUJPO PG 0ME 'SBODPOJBO *OUFSNBSSJBHF BOE UIF HSBEVBM
HSPVQT XJMM IBWF VTIFSFE JO UIF aOBM BOE EFDJTJWF TUBHF S
XJEFTQSFB E CJMJOHVBM aSTU ~~MBOHVBFHFBDBR780~~ JUJPO

5IJT TUBHF XF CFMJFWF BMT TPVOEFE UIF EFBUI LOFMM GF
MFGU QFSJQIFSZ JO 0ME 'SFODI 5IFSFS BSF UXP NVUVBMMZ SFJC
CFIJOE UIJT CPUI XFMM BUUF TUF E GSPN UIF BDRVJTJUJPO MJU
WFSZ HFOFSBM POF XIFSFCZ CJMJOHVBM - BDRVJTJUJPO EFMB
UBSHFU MJLF QSPaDJFODZ JO TPNF BTQFDUT PG HSBNNBS UIPT
GSFRVFODZ UIVT JODSFBTJOH UIF MJLF MJIPPE UIBU JOOPWBUJ
TVSWJWF JOUP UIF DSJUJDBM BHF XIFSFS UIFZ NJHIU TQSFBE JOU
EJBDISPOJD qJOOPWBUJPOr PG SFMFWBODF UP VT JT UIF SFUFO
UVSF CVOEMF XIJDI XF BTTVNF UP CF UIF DPOTFSWBUJWF EFGB
GPS BMM DIJMESFO 5IF TFDPOE SFBTPO JT NPSF TQFDJaD UP U
HVB MJTN BU TUBLF TJODF UIF 0ME 'SBODPOJBO MBOHVBFH JUTE
MJNJUFE ~~WBEEDG~~ NVTU IBWF CFFO B 7 MBOHVBFH XJUI B SF
TUSJDUF E QSF NBM E IFSFGPSF ~~BNSBOSGMZJODDUTSF~~
XJMM IBWF CFFO ~~DPVOTSM BQBOMFOQVDBTU STVBBSMFTP~~
)VML .0MMFS

8IBU XF HFU JT EJBDISPOJD DIBOHF UISPVHI OP DIBOHF BU BMM
UJPO QSPDFTT 5IFSFS JT OP qVOCVOEMJOHr FWFUO XJUI UIF SFT
GFBUVSF CVOEMF TPMJEJaFT JOUP BNBUVSF TUBUF PG UIF * MBO
UIF QSPDFTTFT EFTDSJCFE IFSFS BSF NVUVBMMZ SFJOGPSDJOH
TFRVFOU HFOFSBUJPOT XJMM IBWF DPOUBJOFE NPSF MJOFBS 7
8F SFQFBU GSPN BCPWF UIBU XF OFFE OPU BTTVNF BO PWFSMZ BC
JT JOEJTQFOTBCMF BU UIF MFWFM PG UIF TQFFDI DPNNVOJUZ UI
EJBDISPOJD DIBOHF JT HS ~~SEVBI~~ BU ~~BIJTCM BMM~~ P B NBKPS
BTTFU UP BUIFPSZ FWFOBU UIF JOEJWJEVBM MFWFM UIF * MBOH

TZOUBDUJD SFDPOTUSVDUJPO
8F UIBOL B SFWJFXFS GPS CSJOHJOH UP PVS BUUFUOJPO SFDFOU XPSL TVHHFTU
PUIFS NFEJFWBM \$POUJOFUBM (FSNBOJD WBSJFUJFT NJHIU OPU IBWF CFFO
UIF MJOFBS 7 PSEFS BT UIFJS ~~SBEBSTOEIFTUSPQBBOUFTBS~~ 5IJT TVH
HFTUT JU JT VOSFBMJTUJD UP BTTVNF UIBU UIF 0ME 'SBODPOJBO JOQVU UP BDF
PG MJOFBS 7 TUSJOHT 00 PVS WJFX UIJT DBWFBU EPFT OPU KFPQBSEJ[F UIF
UFODF PG BTUSVDUVSBM 7 SVMF BCTFOU GSPN (BMMP 3PNBODF NJHIU IBWF
- BOE - BDRVJTJUJPO

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

GPS JOUSB UFYUVBM WBSJBUJPO B QFSWBTJWF GFBUVSF JO IJT
DIJMESFO NJHIU XFMM IBWF BDRVJSFE UIF DPOTFSWBUJWF WBS
MBUFE MFGU QFSJQIFSZ BT XFMM BU MFBTU JO FBSMZ TUBHFT P
JOWPLF QBSBNFUF SFTFUUJOH UP UIF FYUFOU UIBU NVMUJQMI
XFSF GFMU UP CF QSF DJTFMZ DPOTFSWBUJWF PME GBTIJPOFE U
CFFO PO UIF EFD MJOF VOUM UIFZ XFSF OP MPOHFS BDDFQUBCM
PG QBSUJDVMBSD POTUSVDUJPOT

*O TVN UIF SJTF PG 7 UIFSFGPSF JOWPMWFE UXP JOEFQFOE
DIBOHFT QPTTJCMZ TFQBSBUFE CZ DFOUVSJFT JO UJNF 7 UP S
WFSC QMVT B MJOFBSMZ SFTUSJDUFE MFGU QFSJQIFSZ XIJDI XF
CVOEMF 0O UIF XIPMF B DIJME JOOPWBUPS BQQSPBDICBT FE PC
QSPKFDUJPOT BOE DPOTFSWBUJWF QBSTJOH BMMPXT VT UP NB
DIBOHF v UIF SJTF PG B MJOFBSMZ SFTUSJDUFE 7 TZTUFN JO 0ME
XF MBDLEJSFDUEJBDISPOJDFWJEFODF CVU XIJDINVTUCF JOGF
XIBU QSFDFEFE JU -BUJO BOE UIF UIDFOUVSZ UFYUVBM SFDP

5IF DPOTFSWBUJWF MFBSOFS TUPSZ GPS UIF SJTF PG 7

'PS UIF SJTF PG 7 DIJME DPOTFSWBUJWF TUSVDUVSF QSPKFDUJ
MPXJOHXBZ \$IJMESFO BTTVNF CVOEMF ~~EGCFBUNVSO~~ POBTJOHMF
-FF \$PVSOBOJF B BOE XJMM POMZ VOCVOEMF J F QSPKF
TUSVDUVSBM QPTJUJPOT XIFO UIFZ HFU DMFBS FWJEFODF GSPN
OFFE UPEPTPUP IPTU QSPOPVODFENBUFSJBM J F UIFJSFYJTU
TFOUBUJPOTBSF JOTVëDJFOU 5IJTNFBOTUIBU CVOEMFE QSPK
VOCVOEMFE B MPOH UIF MFBSOJOH QBUI *G DIJMESFO NBJOUBJ
FBSMJFSCVOEMFE -1 TZOUBDUJD SFQSFTFOUBUJPO UIJT XPVM
NBS GSPN UIF - MFBSOJOH QBUI PG BO BSUJDVMBUFE -1 MBOHVE
DIJMESFO XJMM MJLFMZ BMTP BDRVJSF UIF EFWFMPQNFOUBMMZ
CVOEMFE -1 HSBNNBS BT MPOHBTJU JT TUJMM TVëDJFOUMZ BUU

*O GBDU UIF &BSMZ 0ME 'SFODI UFYUVBM SFDPSE DB XIJDI DPOTJT
PG WFSTF EPFT TIPX NPSF XPSE PSEFS WBSJBUJPO ~~BOEFMMS~~ FBUFS UFOEFOD
;BSJOH ,M-WJL 1FUUFGBS VFT UIBU UIJT JT MJLFMZ OPU CFDBVTF UIF
TUSJDUFE QSFaFME IBE OPU EFWFMPQFE ZFU CVU SBUIFS CFDBVTF WFSTF SF
CFOFaU PG SJNF SIZUIN NFUF S BOE PUIFS QPFUJD DPODFSOT " SFWJFXFS P
UFSBSHVNFUO QPJOUJOH PVU UIBU &BSMZ 0ME 'SFODI TIBSFT NBOZ XPSE PSE
&BSMZ 0ME 3PNBODF QSPTF UFYUT)PXFWFS U\$FXPSL ~~DOHFE~~ PO 0ME 4QBOJTI
0ME *UBM#~~BOJCOZ~~ ½ JT XJUI TPNF NJOPS FYDFQUJPOT GPS UIF MBUUFS CBTFE
GSPN UIF UIDFOUVSZ BOE POXBSET 5IBU UIF UFYUVBM SFDPSE GSPN &BSM
CF TJNJMBS UP UIFTF UFYUT XTUITF ~~NSF~~ ~~OBUR~~ ~~GBMJ~~ ~~OPBST~~ TJODF XF TVTQFDU
UIBU UIJT SFbFDUT TPNFUIJOH MJLF B q1BO 3PNBODFr QBUUFSO XJUI BO BSU
XIJDI TVCTFRVFOUMZ XBT SFQMBDFE CZ B CVOEMFE \$1 JO 0ME 'SFODI CVU OF
DMBJN JT UIBU UIF &BSMZ 'SFODI WFSTF UFYUT BSF SFNJOJTDFOU PG UIJT TUB
XBT BMSFBEZ B GPSFHPOF TUBHF JO UIF TQPLFO WFSOBDVMB S

'JHVSF5IF 3JTF PG 7 "DUVBUJPO PG UIF #VOEMFE -1 GSPN UIF -
1BUI

JT WFSZ MJLFMZ JO FBSMZ TUBHFT PG B DIBOHF JO QSPHSFTT 8
BUJPO PG BO JOOPWBUJWF HSBNNBS JT UIBU DIJMESFO NBJOUBJ
SFHBSEMFTT PG XIFUIFS PS OPU UIFZ BMTP MFBSO UIF OPO JOOP
'JHVSTIPXT UIF EZOBNJDT PG EJBDISPOZ UPQ SPX BOE EFWF
CPUUPN SPX GPS UIF SJTF PG 7 *OQVU TQFBLFST POMZ VTF U
DPOTFSWBUJWF HSBNNBS SJDI -1 UIFJS PVUQVU GPSNT UIF J
MFBSOFS \$IJMESFO TIPX JOQVU EJWFHFODF EVSJOH UIFJS EF
CVOEMJOH GFBUVSFT PG UIF -1 \$IJMESFO JOJUJBMZ VTF UIFJS
NBSZ CVOEMFE HSBNNBS QSFTVNBCMZ UISPVHI BU MFBTU UIF C
XIFO DIJMESFO CFDPNF QFFS BMJHOFE BOE UIFO UIFZ NBZ FWF
UIF CVOEMFE HSBNNBS BOE UIF VOCVOEMFE HSBNNBS BT UIFZ X
JEFODF UIBU UIFZ OFFE UP VOCVOEMF UP DBQUVSF DFSUBJO JO

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

PDDVST TP MPOH BT DIJMESFO NBJOUBJO VTBHF PG UIFJS CVOEM
QFFST XIP BMTN NBJOUBJO VTBHF GSPN UIBU HSBNNBS 5IJT TJU
QFFS UP QFFS SFJOGPSDFNFOU UP BDUVBUF DIBOHF JO UIF & M
PQNFOUBMMZ QSJNBSZ HSBNNBS TVSWJWFT UP CFDPNF BEJBDIS
HSBNNBS

'PS VOCVOEMFE -1T BOE CVOEMFE -1T UIF PVUQVU TUSJOHT
UIFTF HSBNNBST BSF JO B TVQFSTFU TVCTFU SFMBUJJPOTIJQ B
UIF CVOEMFE HSBNNBS BSF BMTN QPTTJCMF JO UIF VOCVOEMFE
PUIFS XBZ BSPVOE 4P JO UFSNT PG XIJDI TUSJOHT DBO CF HFO
EJWJEVBM XJUI CPUI HSBNNBST J F DIJME MFBSOFST VTJOH C
VOCVOEMFE HSBNNBST UIFS XJMM CF OP XBZ PG UFMJJOH XIF
UBJOJOH VTBHF PG UIF CVOEMFE HSBNNBST B QPUFOUJBM
TPMVUJPO "QQFBMJOH UP IFS EJTUJODUJPO CFUXFFO HSBNNBU
BOE UIF VTBHF QBUUFSOT UIFZ HJWF SJTF UP XF QSFEJDU UIBU
FSBUJJPOT XIP NBJOUBJO UIF CVOEMFE HSBNNBS XJMM VTF UIBU
UJPO UP UIF DPOTFSWBUJWF HSBNNBS JODSFBTJOH VTBHF SBUF
TUSJOHT 'SPNIFSF HSBNNBS DPNQFUJ QBUUFSOTTIPVME
J B 'VSUIFSNPSF JG MFBSOJOH QBUI HSBNNBST BSF SFBMMJ
HSPVQT XF FYQFDU BHF HSBEFE WBSJBUJPO XIFSFCZ TVQFSTF
NFOU JO UIF QSFaFME BSF SBSFS JO ZPVOHFS BHF NBUDIFE HSP
UJJPOT BSF UFTUBCMF XF QSFEJDU QSFTDIPPM BOE FBSMZ TDIPF
JOH SJDI -1 MBOHVBFHT PODF UIFZ TIPX QSPEVDUJWF VTF PG M
JO UIF QSFaFME UP RVBOUJUBUJWFMZ TIPX NPSF MJNJUFE QSF
PMEFS TQFBLFST FTQFDJBMMZ XIFO UBMLJOH UP BHF NBUDIFE J

%P EFWFMPQNFOUBM MJOHVJTUT BSHVF UIBU DIJMESFO NBLF
UJJPOT JO UIFJS QSPEVDUJWF HSBNNBST UIBO EP BEVMUT #SPB
MJUFSBUVSF DPNNPOMZ BSHVFT UIBU DIJME QSPEVDUJJPOT SFbF
BSF TNBMMFS CFDBVTF PG FJUIFS B MBDL PG DFSUBJO IJHIFS G
F HVJMGPMZMF /PPSBBITFO3BEGPSE'SJFENBOO #FM
MFUUJ 3J[[JB USVODBUJPO PG IJHIFS GVODUJPOBM QSPKFDUJJP
IJHIFS MBZFST NBZ PDDVS GPS POMZ TPNF DMBVTFT GPS MFBSOFS
TUBSU MPXFS UIBO JO UIF JOQVU HSBNNBST XJUI TVCTFRVFOU
UBJO QSPKFDUJJPOTS BO VOEFSTQFDJaDBUJPO PG IFBET SFMB
UIF BEVMU HSBNNBS XIJDI JT TPNFUJNFT BOBMZTFE BT BO FDP
OPNJDBM MFBSOJOH TUSBUFHZ F H MJDFOTJOH B TVQFSTFU P
FNCFEFE 7 JO - BAROCTUJPO 5SBCBOEU 4PNFVBS
HVFFYQMJDJUMZ GPS CVOEMJOH BTEFWFMBPQNFBOU
-FF \$PVSBOOFFF BMTPOUSBT 1PMJOTLZ G'SIT

*O BOFYQFSJNFOUBM TUVEZ PG UIF OPNJOBMEPNBJO JOBOJTI IFSJUBHF WT
USBT FU BM TIPX UIBU 4QBOJTI IFSJUBHF TQFBLFST NBLF VTF PG B CVOEMF GPS

51T\$PVSOBOF

#VU DIJME QSPEVDUJPO EBUB JT DPNQMJDUBFE UP BOBMZTF
CVOEMFE qIFBETr WT UIF BCTFODF PG DFSUBJO IFBET WT VOE
7FSZ PGUFO XIBU TFQBSBUFT UIFTF JT BU MFBTU JO QBSU CBTFE
JUIJFT SBUIFS UIBO TPMFMZ JSSFGVUBCMF FNQJSJDBM FWJEFO
ESFO QSPEVDF WBSJPTV LJOET PG BEVMU MJLF BOE OPO BEVMU
NVTU XPSL PVU NBOZ MFWFMT PG BOBMZTJT JO QBSBMMFM JODM
MJTU B UIFJS TFNBOUJDT GPS FBDI NPSQIFNF BOE DPNCJOB
XIBU GFBUVSFT UIFZ UBLF UP CF BDUJWF D IPX UIFZ BSF NBQ
QIFNF UP TUSVDUVSBM QPTJUIJFOT E XIBU QISBTFT BSF QBSB
HSBUFE DMBVTFT BOE F XIBU OPO BEVMU BTQFDUT BSF EVF UP
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TVFT BSF UIF CSFBE BOE CVUUFSG PG EFWFMPQNFOUBM TZOUBY
JT OP GPPMQSPPG Pê UIF TIFMG BOBMZTFT GPS IJTUPSJDBM MJ
BEPQU BT GBDU

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QBSFOU WFSZ FBSMZ JO DIJME Q\$P\$B\$D\$O\$T\$P\$O\$N\$B\$O\$H %VUDI
8FYMFS 1PFQQ#XIFEJTB OUFMNBOD FMBOF EIDDLFS

/PSXFHJBOUF SHBBSBOE DIJMESFO BMSFBEZ TIPX DPNQF
UFODF XJUI DMBVTF UZQF TQFDJaD BOE MJHJMGPTQFDJaD TVC O

8FTUF SHBBSSETUF SHBBSSEB 5IJT TVHHFTUT UIBU UIF \$1 MBZFS
JT QSFTFOU BOE BDUJWF JO FBSMZ DIJME HSBNNBST BU MFBTU J

8BMENBOO BMMPXJOH VT UP SFKFDU UIFPSJFT PG DIJME TUSVD
XIJDI BSHVF GPS B DPNQMFUF MBDL PG UIJT MBZFS 'VSUIFSNPS

JOH SJDI -1 MBOHVBHFT MJLF)FCFSX EP OPU TIPX UIF GVMM BE
DPOTUJUVFOUT FBSMZ JO EFWFMPQNFOU JOJUJBMZ OPU TIPX

JOOFS -1 BDUJWJUZ BOE POMZ MBUFNSNBOCF SU BMDUJWJUZ
'SJFENBOO FU BMSHVF UIBU UIJT PSEFS PG QSPEVDUJPO EFWFM

JO DIJME)FCFSX TIPXT HSBX DISMFSFOUJBMZ IBWF UIF SPPU
DMBVTF TUBSU MPXFS UIBO BEVMUT IBWF JU BOE UIFZ NBUVSF I

UIJFOT CZ EPNBJO 51 -PXFS \$1)JHIFS \$1 FWFUUVBMMZ VTJOH
-1)PXFWS UIF EBUB QBUUFSOT BSF BMTF DPOTJTUFUO XJUI PV

OPO QBSBNFUSJD WJFX XIFSFCZ)FCFSX MFBSoJOH DIJMESFO
\$1 EPNBJO JOQVU BT NBQQJOH UP B TJOHMF QSPKFDUJPO VOUIJ

PO XIJDI NPSQIFNFT BOE DMBVTFT BTTPDJBUF XJUI XIJDI BDUJW
XIJDI SFRVJSF VOJRVF QSPKFDUJFOT "T UIFZ HFU FWJEFODF GS

VOCVOEMF GFBUVSFT GSPN UIF JOJUJBM \$1 CVOEMF UP IPTU HS

OVNCFX XIFS 4QBOJTI OBUJWF TQFBLFST VTF BO VOCVOEMFE OPNJOBM EPNE
UVSF \$POTJEFSJOH UIBU IFSJUBHF TQFBLFST UZQJDBMMZ HFU MFTT TVTUBJC
UIJT JT GVMMZ DPOTJTUFUO XJUI PVS NPEFM GPS \$1 DIBOHFT PG B TJNJMBS UZ

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

5IF SFMBUJWF PSEFSJOH PG -1 QSPKFDUJPOT XJMM CF EFUFSNJC
QVU CVU PVS BQQSPBDI NVTU BDLOPXMFEHF UIBU UIF OBUVSF P
HJWF SJTF UP RVBTJ VOJWFSTBM SFMBUJWF PSEFST BT UIF DBS
EFNPOTUSBUFE XJUI DSPTT MJOHVJTUJD EBUB 8F DBO DPODMY
UJPO QBUI EBUB GPS 7 BOE SJDI -1 MBOHVBHFT JT DPOTJTUFUO
CVU UIF BDRVJTUJPO QBUI GPS SJDI -1 MBOHVBHFT JT BMTF DF
BQQSPBDI'ST MEN BOO FU BM

*O TVN NBJOUFOBODF PG B GFBUVSF CVOEMF NBZ CF UIF TPVS
7 HSBNNBST 8F TVHHFTU UIBU GFBUVSF CVOEMFT UIFNTFMWF
BMMZ QSJNBSZ UP BSUJDVMBUFE TUSVDUVSFT FBSMZ MFBSOFE
DPOTFSWBUJWF DVMBUFE UIFU IFTF QSPQFSUJFT NJHIU FYQMBJ
BCMF TUBCJMJUZ PG 7 HSBNNBST PWFS UJNF BOE TVHHFTU UIB
DPNF BCPVU CFDBVTF UIF QSPQFSUZ PG 7 UP \$ NPWFNFUO JUTFM
CMF XIJDI CSJOHT VT UP PVS OFYU DBTF TUVEZ

\$ 8# 4: <" A 5'# .388 3% 7 7 (1(#70 1(67 17#71 <. 78

8F OPX UVSO UP DPOTJEFSJOH UIF PQQPTJUF DIBOHF GSPN B 7
7 TZTUFN *U GPMMPXT GSPN PVS EfaOJUJPO PG 7 BT B DPNQPT
UIBU 7 DBO CF MPTU JO POF PG UXP XBZT FJUIFS UISPVHIMPTT P
PS UISPVHI VOCVOEMJOH UIF GFBUVSF CVOEMF JO UIF MFGU QFS
PG BU MFBTU UXP MBOHVBHFT UIBU IBWF MPTU 7 JO IJTUPSJDBM
BOE 'SFODI *O CPUIDBTFT 7 UP \$ NPWFNFUO XBT MPTU BHSBE
DBO CF PCTFSWFE JO UIF 3FOPSUSJMSF DIMSEU BDL

"OESBEF

5IJT UJNF IPXFWFS XFBSF QSFTFOUFE XJUI BO JOUFSFTUJOH
TUVEZ B DIBOHF JO QSPHSFTT SBUIFS UIBO SFMZJOH PO UFYUVE
TUSVDUJPO 5IJT PQQPSUVOJUJ JT PêFSFE CZ POHPJOH XPSE P
UBJO WBSJFUJFT PG (FSNBOJD 7 MBOHVBHFT TPNFUJNFT DBMM
2VJTU /JTUPW 0QTBIM JODF UIFZ BSF TUSPOHMZ BTTPDJBUFE
JNNJHSBOU DPNNVOJUJFT JO VSC BOMLSFFBT C8FOX EJMM GPMMPX
VTF UIF UFSNBOJD 6SCBO 7 6SDDBDOMBSTTF WBSJFUJFT MJOFBS 7

\$PXQFS)BMMBSHVF GPS UIF TFQBSBUJPO PG B CVOEMFE 7PJDF "TQFDU JOUP
BOE "TQFDU IFBET JO UIF IJTUPSZ PG &OHMJTI 5IFZ BSHVF UIBU B TJOHMF T
CPUITFUT PG BDUJWF GFBUVSFT BOE UIFO JT TQMJU JOUP UXP IFBET UP IPTU
5IJT JT JO QBSU MJLF PVS BOBMZTJT BT JU BTTVNFT GFBUVSFT BOE IFBET DBO
BOE NBQQJOH SFMBUJPOT JO EJBDISPOZ BOE JO MFBSOJOH CVU BQQFBST UP
EJSFDUJPOBMJUJ EJBDISPOZ CVOEMFE VOCVOEMFE)PXFWFS UIFZ JTPME
PG B QBSUJDVMBM NPSQIFNF WAF UIBU UIF VOCVOEMJOH DIBOHF IBT UP EP X
MFBSOFST UIJOLJOFUFEVUY PXO QSPKFDUJPO UP IPTU JUT QBTTJWF VTF
SF NBQQJOH PG B NPSQIFNF UP TFNBOUJDT 3F NBQQJOH PG NPSQIFNF UP GI
JT B QMBVTJCMF XBZ GPS MFBSOFST UP DSFBUF NPSF QSPKFDUJPO SBUIFS U

\$PVSOBOF ,M—WJL 1FUUFSTFO

PSEFST PG UIF GPMMPXJOH LJOE BSF DPNNPOQMBDF BMUIPVH
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<.FEMJNFXJ\$FUBSFO UP EBHFS

XJUI-JNFXJ\$F UBLPTORUXPEBZT

q6TJOH -JNFXJSF JU UBLFT BCPVU UXP EBZTr

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'SFZXBME \$PSOJQT (BOV[B /JTUPW 0QTBIM

5IJT QIFOPNFOPO IBT CFFO BUUFTUFE BDSPTT \$POUJOFUOUBM(F

NBO 8FJTF GPS %VUDFMMFØ .PVSJHI \$IFOH

BOE JO BMM .BJOMBOE 4DBOEJOBWJBO, MBOHVBHFT GPS 4XFEJT

(BOV[B GPS %BOJTMJTUF GPS /PSXFHJBOJTOJPTVF

0QTBIM GPS DPNQBSBUJWF QSFZXFMEJWBMMLEFO

C 5IFSF BSF SFNBSLBCMF TJNJMBSJUJFT CFUXFFO BMM BUU

POMZ XJUISFTQFDU UP UIF BDUVBM XPSE PSEFS QBUUFSOT PCTFS

PG UIF TPDJPMJOHVJTUJD QSPaMF PG UIF TQFBLFST *O UIF WBT

TQFBLFST BSF ZPVOH CJMJOHVBM PS NVMUJMJOHVBM JNNJHSB

JNNJHSBOUT 5IFZ IBWF GVMM DPNNBOE PG UIF TUBOEBS MBOH

SFMFWBOU EJBMFDU PG UIF BSFB BOE UIFZ BSF DPOTDJPVTMZ E

GFSFODFT CFUXFFO UIF MBUUFS BOE UIFJS JO HSPVQ WFSOBDVM

BCMFT UIFN UP TXJUDICFUXFFO UIF TUBOEBS PS EJBMFDU JO N

BOE UIF WFSOBDVMBS GPS JO HSPVQ TJUVBUJPOT JO TFFNJOHM

5IFSF BSF TFWFSBM SFBTPOT XIZ JU XPVME CF NJTMFBEJOH UP

CFFO MPTU JO UIF (67T 'PS TUBSUFST BT QPJOJBE PVU CZ 8BML

(67T DPOTUJUUVUF UIF CJSUI PG OFX WBSJFUJFT BOE JU XPVME U

TFOTF UP TBZ UIBU UIFZ IBWF qMPTUr B XPSE PSEFS QBUUFSO 4

DMFBSMZ IBWF UIF SFHVMBMS 7 HSBNNBS JOUBDU BT XFMM *O GB

UIF TBNF FWJEFODF GPS 7 UP \$ NPWFNFUO BT JO UIF TUBOEBS

TVCKFDU WFSJOWFSTJPO BOE B TJOHMF QSFWFSCBM DPOTUJU

DBTF UIBU UIFSF JT B WFSZ TQFDJaD DPOUFYU XIFSF UIF (67T MJ

EFS BHBJOTU UIF TUBOEBS OBNFMZ JO UIF DBTF PG BO JOJUJBM

JO 'JOBMMZ FWFO XIFO SFTUSJDUJOH PVS BUUFOUJPO UP UIF

UIF RVFTUJPO PG XIFUIFS UIFZ MBDL 7 PS OPU JT QBSUJBMMZ B N

QBSUJBMMZ PG BOBMZTJT 0O PVS EFaOJUJPO PG 7 XIJDI BDDF

JG UIFSF JT 7 UP \$NFWNFUOJUJDUFE QSFaFME FSYBNQMFT MJLF

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7 MBOHVBHFT -FGU EJTMPDBUJPO TUSVDUVSFT \$POUSBTUJWF -FGU %JTMP

XJUI SFTVNQUJWFT JO UIF QSFaFME BSF QBSUJDMBSMZ DPNNPO BT JMMVTU

0UIFS QBUUFSOT BMTP FYJTU GPS FYBNQMFT PG OPO JOWFSUFE MJOFBS 7 J

BOE (FSNBOTFFMEF ,M—WJL 1FUUFBS#VOL #SFJUCBSUI

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

OPU 7 DMBVTFT TJODF UIFSF BSF TFWFSBM DPOTUJUVFOUT JO U
PG XIFUIFS UIF WFSC IBT NOME' BS \$FTFBSDIFST XIP TFF 7 UP \$
NPWFNFOU JUTFMG BT UIF POMZ EFDJTJWF DSJUFSJPO BOE XIP B
QMBUF qSFMBYFEr GPSNT PG 7 UIF BDUVBM BOBMZTJT PG UIF M
JO UIFTF TUSJOHT JT DSVDJBM GPS EFDJEJOH XIFUIFS UIFZ DPO
HSBNNBS PS OPU

*OEFTE UXP BOBMZTFT BSF QPTTJCMF &ajUIFS UIF WFSC TUJ
XIJDI DBTF UIFSF BSF DMFBSMZ UXP QPTJUJPOT BWBJMBCMF JO
HVFE GPS CZ 8BMLCFFOJT XPVME NFBO UIBU UIF QSJNBSZ GFBUV
CVOEMF XIJDI XF IZQPUIFTJ[F UP CF QSFTFOU JO UIF HSBNNBS
BDRVJSJOH UIF MBOHVBF IBT CFFO VOCVOEMFE 5IF TFDPOE C
UIF WFSC EPFT OPUCNFWFBUWFS UP TPNF MPXF*GOTPTJUJPO MJLF 5
UIF QSFTFODF PG UXP DPOTUJUVFOUT JO UIF QSFaFME EPFT OP
QFSJQIFSZ JT BSUJDVMBUFE TJODF POMZ UIF IJHIFS aSTU DPOT
QBSU PG UIF \$ EPNBJO

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SFBTPO JT UIBU KVTU MJLF UIF aSTU DPOTUJUVFOU JT WJSUVBI
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q5IFO FWFSZPOF TUBSUFE IBUJOH IFSr
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PG ,JF[EFVUTDI UIF (FSNBO 6SCBO 7FSOBDVMBS)PXFWFS UIF
UIF BEWFSCJBEWDFNFOGPMMPXFE CZ BOPUIFS BEWFSC BOE UIF
WFSC

VOEBOIF SJTBVDOPDHJOPDI
BOEUIFOWFSBTBMTPUJBMIPMF
q"OE UIF OIFSF JT BOPUIFS IPMF r
(FSNBO 6SCBO 7FSOBDVMBS GSPN

*O PVS PQJOJPO UIFSF JT SFBTPO UP SBJTF UIF RVFTUJPO XIFU
BMMZ JOWPMWF UXP QPTJUJPOT JO GSPOU PG UIF WFSC BUBMM *
TFFNT BWBJMBCMF FWFO JO TUBOEBSE (FSNBO QSPWJEFE UIF JO

\$PVSOBOF ,M—WJL 1FUUFSTFO

JT JOUFSQSFUFE BT TPNF LJOE PG EJTDVPSTF DPOOFDUJWF SBU
SBM BEWFSC ~~DBBM P4~~ FFL JGPS 7 PSEFST XJUI qEBOOr JO .PEFSO
(FSNBO (PPHMF TFBSDIFT GPS sVOE EBOO VO UFO JTUt PS s VO
IFS XJSEt PS sVOE EBOO TQÁUFS NVTt FUD BMM SFUVSO WFS
PG TFFNJOHMZ BVUIFOUJD BUUFTUBUJ POT 5XP OBUJWF TQFBLF
DFQUFE UIFTF TUSJOHT 5IFZ UIFSFGPSF TFFN UP NJSSPS UIF EJ
qTÂr XIJDI DBO CF VTFE JO UIF TBNF XBZ JO /PSXFHJBO

OH TÂ IFS FSEFOPIEUVMM
BOEUIFØFSØTJUZFØ IPMF

q"OE UIFSF IFSF JT ZFU BOPUIF. ~~S E F N Ø~~ /PSXFHJBO

8IJMF JU JT USVF UIBU JOJUJBM TVCKFDUT PWFSXIFMNJOHMZ U
UPQJDT UIFSF JT OP SFBTPO XIZ UPQJDBMJTBUIJPO TIPVME OPU E
NFOUT PG UIF WFSC MJLF UIF EJSFDU PS JOEJSFDU PCKFDU 4JO
JT BO BEKVODU GVODUJPOJOH BT B DMBVTF XJEF TDFOF TFUJJO
XJU ~~8BMLEFO~~ C UIBU JU NBLFT TFOTF UP BTTVNF UIBU JU JT aSTU
EJSFDUMZ JO UIF \$ EPNBJO)PXFWFS UIJT NBLFT JU BMM UIF NP
POMZ TVCKFDUT TIPVME GPMMPX TJODF UIFSF TFFNT UP CF OP Q
WFOUJOH UIF HSBNNBS GSPN aSTU HFOFSBUJOH BO JOWFSUFE 7
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BOE UIFO aSTU NFSHF UIF GSBNF TFUUF S JO BIJHIFS TQFDJaFS
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TUSJOHT

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GSPN PUIFS SFQPSUFE WBSJFUJFT DPO ~~UBFNQPSØ~~ OFPVT BOE IJT
(SFDP TIPX UIBU MJOFBS 7 PSEFST PG UIF TBNF LJOE BSF G
'MFNJT IJO DFSUBJO CJMJ ~~JOHBMWIEZBMDSE~~ BTTF JO GSFRVFODZ XJ
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TQPLFO PO 'SFODI UFSSJUPSZ /PSXFHJBO IFSJUBHF TQFBLFST J
BMT P QSPEVDF TJNJMBS OPO JOWFSUFE 7 TUSJOHT QBSUJ DVI
BEKVODU ~~FTUFSHBBSE~~ -PIOEBM 4V ~~ØS RJTJUS~~ JDBM WBSJFUJFT
OME 'SFODI PG UIF UIDFOUVSZ FYIJCJUFE F-~~YØFØ~~ Z UIF TBNF QB

" SFWJFXFS BDDVSBUFMZ ~~QWFSQFEP~~ S 7 UIBSU JOHT XJUI JOUJBM BEKVODUT BMT P
JO 7 MBOHVBHFT GPMMPXJOH UIF QBUUF SO BEKVODU SFTVNQUJWF WFSC 5
FYJTU JO UIF 6SCBO 7FSOBDVMBST BT XFMM DMFBSMZ GFBUVSF 7 UP \$ NPWFN
4QFD \$1 BOE BSF UIFSFGPSF JOUJNBUFMZ DPOOFDUFE UP PUIFS EJTMPDBUJPO
7 'PS SFTVNQUJWFT JO UIF QSFaFME ~~ØGØCMBØ~~ HVBHFT TFF

5IF SPMF PG UIF DPOTFSWBUJWF MFBSOFS JO UIF SJTF BOE GBMM PG WFSC TFD

7 JT XFMM BUUFTUFE XJUI JOJUJBM BEKVODUT XJUI TDPQF XJEI
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OPTULFSLF 8FTU 'MFNJT) BEJBFMIBDU (G SBN

<2BQUMMJ PU UPDPOUAE BFNFB> FTDSJB
XIFOIF IFS IBEBMUMP MBJTXJG7 #%. DSJFE
q8IFO IFIBE UPME IFS FWFSZUIJOH IJT XJGF DSJFE PVUer
- B 7JF EF 4BJOU & V\$ U8EDUVJ SPS Z

OWFS UIF UIBOE UIDFOUVSJT UIF 'SFODIMBOHVBHF HSBEV
WFSC JOWFSTJPO NFBOJOH NPSF EJWFSTFDPOUFYUT JODMVE
VOEFS UPQJDBMJTBUIJPO GBJMFE UP USJHHFS NPWFNFUO PG U
aSTU TJHOT PG XFBLOFTT JO UIF 7 HSBNNBS JOWPMWFE GSBNJ
BEKVODUT KVTUMJLF JODFSUBJO 'MFNJTIEJBMFDUT BOE POPV
6SCBO 7FSOBDVMBST 8FUIFSFGPSFTVHHFTUB 7 UP 5BOBMZTJT
JO UIF (67T

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UJOFOUBM (FSNBOJD IBT B CBTJD 407 PSEFS XIJDI JT BQQBSFO
DMBVTFT "T 8BMLEFO QeJOUTQPVUJJOH 7 UP 5 GPS MJOFBS 7
TUSJOHT BNPVOUT UP TBZJOH UIBU UIFSF JT B IFBE JOJUJBM 51
5IF RVFTUJPO UIFO CFDPNFT XIZ XFE P OPU aOE 470 PSEFS JO OP
EFE DMBVTFT JO UIFTF WBSJFUJFT XIJDI BMTPTIPX UIF WFSC a
TUBOEBSE MBOHVBHFT 0OF QPTTJCMF TPMVUJPO JT UP TBZ UIBU
OPU SBJTF BU BMM JO FNCFEFE DMBVTFT 5IJT XPVME HJWF UIF
FOU QPTJUJPOT G^aPJSUUIF WFFSUCESMJOFS 7 TUSJOHT GPS FYBNC
EFS UPQJDBMJTBUIJPO BOE JO TPNF FNCFEFE DMBVTFT XJUIPV
5^a JO UIF MJOFBS 7 TUSJOHT BOE JO TJUV GPS FNCFEFE DMBV

5IF TUBUVT PG UIF 51 JO (FSNBO SFNBOT B NBUUFS PG EFCBUF TJODF FNQJS
IBSE UP DPNF CZ TP IBSE UIBU TPNF SFTFBSDFST IBWF DPODMVEFE JU JT BCT
DPNQMF'CSMZBN)BJEFS \$IPJ #FSNBO OUIFSTIBWFTVHHFTUFE UIF
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"OPUIFS PQUJPO JT UP JNBHJOF B qTQMJU IFBE QBSBNFUFSr TVDIUIBU UIF 51
DMBVTFT CVU IFBE aOBM JO FNCFEFE DMBVTFT *O GBDU UIJT JT B GBJSMZ
470 407 BMUFSOBUJPO PG \$MBS TTJD-BMJBUJFOUBSDIBQ UFS 4FF
BM%BODLBFSU BOE JT OPU UP CF EJTNJTTFE Pê IBOE

is in itself not far-fetched, since it mirrors the situation in Scandinavian V2 languages, where the verb stays in situ in most embedded clauses, without moving out of the vP-complex. Walkden points out that while this derivation might possibly capture the facts, it loses the insight that it is the presence of the complementiser that blocks verb movement in embedded clauses. This is an important argument, but perhaps not decisive, since it is imaginable that the EPP on C triggers formal movement of the subject only when C is merged and that this merger simply does not take place in subject-initial clauses, if these are simple TPs. In embedded clauses, then, the verb is simply not interested in T – like in Mainland Scandinavian – and C is either occupied by a complementiser, thereby bleeding movement, or vacant, in which case the EPP again attracts the subject, or alternatively some other argument is fronted by a stronger feature (say [Topic]) to Spec-CP, again triggering verb movement to C.³⁰ Admittedly, this analysis relies on several interlocked assumptions which are hard to demonstrate empirically. It may well be that Scandinavian and Continental Germanic V2 need different analyses, and that this applies to the respective GUVs as well.

We must stress that we are not claiming that all linear V3-orders in the Urban Vernaculars can be derived by V-to-T movement. We only suggest that the innovative V3 orders with ‘adjunct-subject-verb’ order are derived by V-to-T. Like the standard languages, the GUVs contain the V2 grammar (V-to-C movement) with all its linear deviations. All word orders featuring inversion are still derived by V-to-C. This applies to standard inverted V2 orders, V3 orders of the dislocation plus resumptive type, and other canonical examples like (20).³¹ Here, the ‘why’-word activates the [wh]-feature of the bundled CP, whereas the initial adjunct-clause is either adjoined on top of the CP or resides in some dedicated ‘scene-setting’ projection above the CP, most likely the very same projection that hosts the initial adjunct in the innovative V3 orders.

30 A reviewer suggests that if the verb is not interested in T (in embedded clauses), then we would never expect verb movement to this position. This claim is too strong, we believe, since multiple and seemingly optional landing sites for verbs are well-attested, for instance for finite verbs in Latin (Danckaert 2017, Klævik-Pettersen 2019a) and infinitives in French (Pollock 1989). Modern colloquial Norwegian allows seemingly optional V-to-T in embedded non-V2 contexts like relative clauses and temporal adjunct clauses (Klævik-Pettersen 2019a). The same reviewer remarks that embedded conditional clauses in German can feature verb-movement if the complementiser is dropped. This is standardly analysed as V-to-C movement due to the vacant C-position and does not seem to have any direct bearing on the availability of T as a landing site for the verb. As a side point, since these verb-initial conditionals are also available in non-V2 Modern English (‘Had I known this before, I would...’), it is not clear beyond doubt that these structures are ‘part of the V2 grammar’, so to speak.

31 We have borrowed this example from a reviewer.

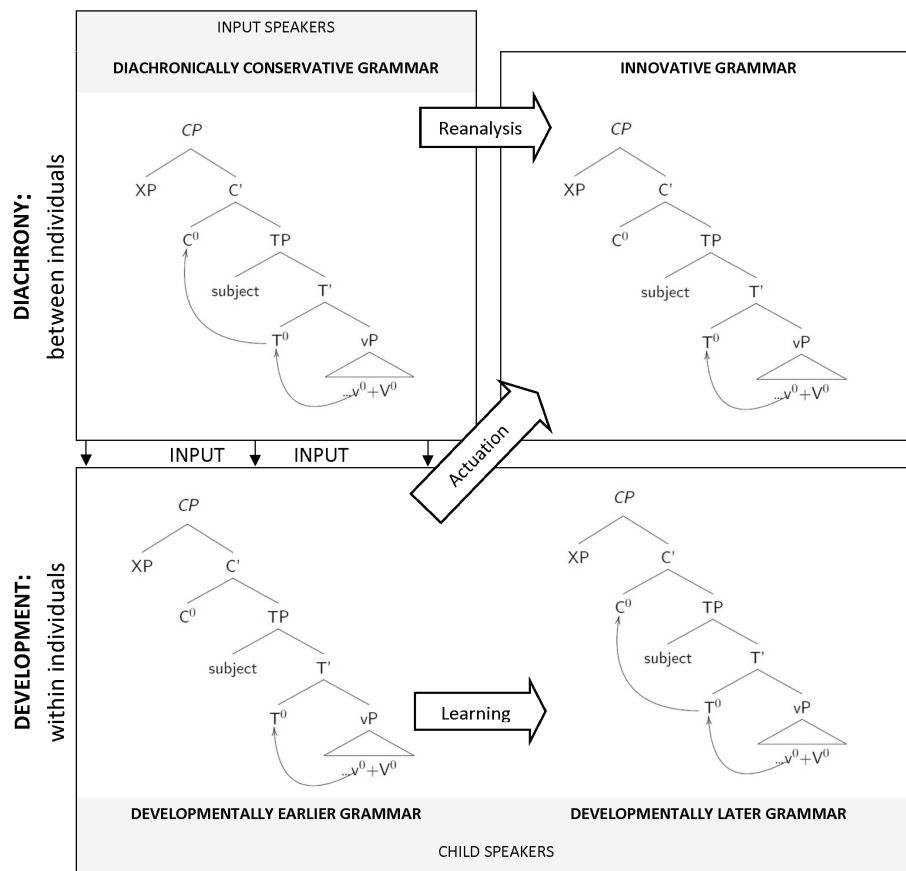
- (20) *Hvis du er så god, hvorfor behøvede du mine penge?*
if you are so good why needed you my money
'If you are so good, why did you need my money?'

We round off this section by returning to the question of what it means that non-inverted linear V3 strings in the GUVs are a case of 'loss of V2' in a diachronic sense. On our analysis, these constructions lack V-to-C movement, and hence do not qualify as V2 constructions. In that sense, there is a partial loss, provided we take as the point of departure the full-fledged V2 system of the standard languages. This conclusion may be artificial or even logically flawed, since it involves comparing two different *synchronic* varieties which are not strictly speaking in a descent relationship (although it is straightforward to tell which retains conservative properties and which has diverged with innovative properties, for the narrow domain we address). If the GUVs should lose V-to-C movement altogether, developing into non-inverting SVO languages of the English kind, we could justifiably claim that they had lost V2. Even this scenario, however, would have no bearing on V2 in the Germanic standard V2 languages and other dialects. Only if the V3 strings should spread from the GUVs, 'spilling over' into the standard languages, and from there conquer more syntactic domains, would we be justified in talking about 'the loss of V2'. Our concern in this section has been to demonstrate a phenomenon that is relevant to the understanding of the loss of V2 more generally, since it seems to mirror with astonishing precision what we know about attested cases of loss of V2 in the diachrony of Old French or of change-in-progress in Flemish dialects. Furthermore, this striking coherence suggests that there is something like a 'prescribed pathway of change' that is latent in a V2 language and which can be triggered by relevant changes in the larger speech community. It seems like V-to-C movement is a vulnerable property. This follows in a very general way from the theory that is proposed here, namely through children being conservative or minimalistic in their representations, or in their 'string-to-structure assignment' algorithm.

4.1 *The conservative learner story for the loss of V2*

For the loss of V2, child conservative string-to-structure assignment plays out in the following way. Children prefer to move as little as possible, initially assuming no verb movement, and only begin to include movement in their syntactic representations when they get clear evidence from their input that they need to represent the finite verb in more than one projection. This means that along the learning path, structures with less displaced verbs are present

earlier than those with more displaced verbs³² and if children maintain a developmentally earlier V-to-T stage, without moving the verb further to C for some strings, this gives a V3 grammar from the L1 learning path of exposure to an input V2 language. The V-to-T grammar will be sufficient to capture many input sentences, those with Subject-Verb word orders. If this grammar is maintained, speakers will be able to represent and parse [XP] – [Subject] – [Verb] patterns as grammatical, with the first XP in Spec CP and the subject in Spec TP.



Ygd& The Loss of V2: Actuation of V-to-T from the Learning Path

³² We are aware that patterns that would seem to point in the opposite direction have been reported in the literature. Both [Schönenberger \(2001\)](#) and [Waldmann \(2014\)](#) show that children might in fact postulate more verb movement than what is warranted by the input. However, this crucially applies to *embedded clauses*. It is therefore likely that children show some domain-insensitivity early on, overextending their representations of main clause syntax to all domains.

Figure 4 shows the dynamics of diachrony (top row) and development (bottom row) for the loss of V2. Input-speakers only use the diachronically conservative grammar (V-to-C); their output forms the input to the child learner. Children show input-divergence during their development, initially assuming movement only to T (presumably maintaining this through at least the preschool years, when children become peer-aligned). Children initially use their learning path grammar, and then they may use both their learning path grammar and the later-acquired V-to-C grammar, where they support more movement. Actuation can occur so long as children maintain usage of their V-to-T grammar among peers, who also maintain usage from that grammar.

Does child language research show evidence of children treating verbs as lower in the syntax than in the target input grammar? More specifically, do children show V-to-T stages, when the input language is V-to-C? Broadly, much L1 acquisition literature has argued that movement structures are dispreferred during learning for reasons of economy (Platzack 1996, Zuckerman & Hulk 2001, Waldmann 2012, i.a.). For example, Westergaard & Bentzen (2007) argue Tromsø Norwegian learners initially seek to minimize movement, and use V-to-T when that analysis is string-consistent for their input, as in common subject-initial declarative clauses (e.g., when children encounter V-Neg strings V-to-T is the most economic analysis that still gives that word order).³³ Waldmann (2014) adopts this analysis for Swedish learners, and further argues that children overgeneralize this V-to-T analysis from main clauses to embedded clauses. This overgeneralization, which Waldmann calls Economy of Movement, accounts for the fact that Swedish children's embedded clauses show overgeneralized V-Neg patterns (vs. Neg-V). Waldmann shows there is little evidence in child-directed Swedish to overcome this embedded V-to-T so children persist (cf. German where children only very rarely make this overgeneralization, Mills 1985). Faroese learners also "initially hypothesize more V-to-T than is warranted by the input" for V2 embedded and root clauses (Heycock, Sorace, Hansen & Wilson 2013: 19). And, Heycock & Wallenberg (2013) argue for the loss of verb movement in embedded clauses in Faroese and Mainland Scandinavian due to learners re-analysing embedded V-to-T as in-situ (diachronic: V-to-T > V-in-situ).³⁴ For another analysis of loss of V-to-T (for resultant V-in-situ) in English, linked to the rise of *do*-support, see Snyder (2017). In sum, loss of movement is consistent with generative syntactic theory and supported by several empir-

33 Lightfoot (1997: 265) found that about 70% of the matrix sentences of Dutch, German, Swedish and Norwegian have an SVO surface order.

34 Using Yang's (2000) Variational Learner, they argue we don't need to build-in a bias against movement: learnability from the input word orders – the persistent consistent structures – does the work in creating a preference for the non-movement structures.

ical studies for verb movement (and other movement phenomena, e.g., wh-movement vs. wh-in-situ, [Zuckerman & Hulk 2001](#)).

We find support in the acquisition literature for the viability of a loss of V-to-C movement story to explain the loss of V2, and loss of movement is consistent with historical cases like that of English. Several studies already demonstrate the basic input-divergent child preference our model predicts, but we could go further and more precisely test our model by looking for relatively longer persistence of V-to-T in main clauses in bilingual children's Germanic languages (e.g., for children learning German/Norwegian/etc and another language) than in monolingual learners of the same language. However, for common SVO productions there is no way to tell apart V-to-T from V-to-C, so unless children show the V3 orders of the GUV-kind discussed, it would be difficult to draw conclusions. Data of this kind specifically from these communities would add weight to the full story, which involved contact situations for the rise of GUVs.

4.2 *Why is V-to-C always lost first?*

Throughout this paper, we have considered V2 not as a parameter, but as a surface descriptive term. The term 'V2' is therefore not a primitive of the theory, and the label is open to definitions. We have argued that two distinct properties, namely V-to-C movement and a bundled left periphery, constitute the ingredients in a full-fledged V2 systems of the Modern Germanic kind, and that the label should be reserved to languages that present both of these properties, as in the case of Old French.

From the perspective of our theory of acquisition, these two properties are very distinct. Bundling features on single heads constitute the default representation for children, and more articulated, cartographic-like structures must therefore be acquired by sufficient positive evidence. The relevant evidence is the co-occurrence of multiple constituents (or morphemes) with different features. Every single child acquiring articulated structures must pass through the same stages – bundling only *potentially* followed by unbundling – and this developmental pathway prescribes a latent diachronic pathway in the opposite way. As for V-to-C movement, this is far from the default representation of phrases, which are initially given minimal representations in a child's developing I-grammar. V-to-C may be acquired through sufficient inversion strings of an appropriate kind, but unlike bundling features, which is the default, higher verb movement is developmentally later, although often already completed in very young children of 2–3 years ([Westergaard 2008](#), [Tsimpli 2014](#)), given its strong attestation in the input.

There is another, perhaps more important reason why V-to-C is the weak link of the V2 construction, prone to loss in diachrony. If we consider the two properties involved in V2 analytically, we observe that they predict a four-way typology.³⁵

	4g` VW5B	3d[Ug`SfW5B
@aHfZ	English	Italian
HfZ	Germanic V2, Old French	'Relaxed V2' in Old Romance???

FSTW# A four-way typology

Three of the four language types are attested. As for the type with V-to-C movement plus an articulated left periphery, the situation is less clear. Some historical Romanists have claimed that this is the case for certain medieval varieties of Romance languages, based on the observation that these varieties feature considerable subject inversion strings, but also strings with three, four, or even more constituents in front of the verb (Ledgeway 2009, Poletto 2014, Wolfe 2018). While we do not have any stake in the debate around the proper analysis of such varieties, we would just like to point out that there is a strong inherent tension between acquiring V-to-C movement and acquiring a strongly articulated C-domain. The reason is simple: V-to-C movement is cued from inversion strings, and inversion rates drop dramatically with an increased number of constituents to the left of the verb. A linear V4 string without inversion is not likely to cue V-to-C movement in a developing I-language guided by a conservative parsing algorithm:

³⁵ The table is overly simplistic in that it presents V-to-C as a binary, on or off phenomenon, when we know in fact that this is not the case. All of the non-V2 languages in the table have V-to-C movement in (some) *wh*-questions and even a few other contexts. The difference is that V2 languages display V-to-C even in the absence of such narrow criteria, in normal declarative clauses. Even within declarative clauses, it is far from beyond doubt that V-to-C always takes place, such as in subject-initial clauses in the Scandinavian languages (cf. the debate of the 'split' (Travis 1984, Zwart 1997) vs. 'symmetric' (Schwartz & Vikner 1989, 1996) analysis of V2). In Scandinavian V2 languages, there are unequivocal examples of declarative main clauses in these languages that do not feature V-to-C:

- (i) [Kanskje] [han] [ikke] hW det
 maybe he not knows it
 'Maybe he doesn't know it' (Norwegian)

The notion of a dedicated locus of verb movement within a single clause type is therefore highly questionable. This is particularly relevant to many Old Romance languages, since it might well be that they featured V-to-C in some declarative clauses, but that only Old French generalised this pattern completely.

- (21) [*tamen poy di la morti loru*], [*li ossa loru*] [*pir virtuti divina*] *abWS`g miraculi*.
 Then after of the death their the bones their by virtue
 divine perform.3PL miracles
 ‘Then after their death, their bones perform miracles through divine
 virtue’ (Old Sicilian, *Sanctu Gregoriu* 262)

Although the global input must be taken into account to decide whether V-to-C movement has taken place, we believe that, given child conservativity of representation and movement, there is a tension between assigning multiple left peripheral specifiers as well as a left peripheral head to serve as landing place for the verb for the same input strings. A system with both these properties, if possible at all, should be a very ephemeral thing.

5 A NOTE ON ACTUATION IN CONTACT SITUATIONS, FOR BOTH CASE STUDIES

Contact situations are present for both our case studies of attested rise and fall of V2 changes. Population changes of this far-reaching kind are plausible actuation triggers because they alter the amount and properties of linguistic input to children,³⁶ and they alter the social dynamics of the speech communities (see e.g., [Trudgill 2011](#), [Weerman 2011](#), [Walkden 2017b](#), [Klævik-Pettersen 2019a,b](#)). We appeal to contact for the *actuation* of both novel syntactic analyses we cover, arguing that innovations from the learning process (i.e., child input-divergent I-languages) are more likely to catch-on (i.e., actuate from I-languages to E-languages) in contact situations. Syntactic acquisition appears to be autonomous in each language and relatively robust to variation in input amount ([Paradis & Genesee 1996](#), i.a.). However, any aspect of grammar that is sensitive to input amount will be affected by mixed language input (see e.g. [Gathercole & Thomas 2009](#), [Grüter & Paradis 2014](#)), though more for the minority language not spoken in the wider community ([de Houwer 2007](#)). Contact situations usually also involve more L2 speaker exposure. Input from perceptibly L2 speakers is dispreferred by L1 learners (see [Newport 1999](#), [Hudson Cam & Newport 2005](#)), again potentially reducing the input data that children actually learn from ‘intake’ ([Gagliardi 2012](#), i.a.).

A simultaneous or sequential bilingual first language learner³⁷ will receive quantitatively less input for their e.g., Norwegian than a monolingual

36 Compare this to most CIA approaches where changes in input amount or properties directly cue *innovation*, rather than contributing to opportunity for actuation (e.g., [Lightfoot 1999](#), [Lightfoot & Westergaard 2007](#)).

37 Any language acquisition occurring in early childhood is first language acquisition.

learner. And, they likely frequently have e.g., Norwegian as their chronologically second language if they are sequential bilingual and (first-generation) speakers. These differences in age of onset and input quantity could have effects on when individual children acquire certain syntactic constructions, and how long they maintain usage from earlier learning path syntactic representations. Recall that sociolinguistic work suggests that children become more sensitive to and interested in their peers' language after age 3 (prior to that they are seen to largely match patterns in their caregivers' speech (Labov 2001, Smith et al. 2007)), at least for lexical and ph-variables). Thus, bilingual first language acquisition (both for simultaneous and sequential bilingual learners) may amount to less unambiguous evidence for (a) unbundling, or (b) V-to-C, and in turn, longer maintenance of the learning-path innovative grammar. On our model children still learn the input grammar, but too late for it to be their only grammar, and become bi-dialectal. Furthermore, the syntactic innovation itself need not be related to the syntax of the other languages involved in acquisition, but draws from the learning path. In sum, because children in these communities may use learning path grammars longer than their monolingual counterparts, they may be more likely to reinforce each others' input-divergent grammars within their childhood peer-groups in a way that leads to actuation.

6 DISCUSSION AND CONCLUSION

In this paper, we have argued that adopting a bundling approach to the left periphery best allows us to account for all three empirical domains of relevance for V2 phenomena (synchronic syntax, L1 acquisition, change), and how they dynamically interact. On the synchronic level, we believe our analysis of V2 as a complex phenomenon consisting of V-to-C plus a feature bundle captures the facts in a satisfying way. In particular, the hypothesis of a feature bundle provides a natural account of the linear restriction that is difficult to explain in a fully cartographic model. Furthermore, we have assessed our predictions for child learning paths against the extant L1 acquisition literature, showing that there is broad evidence that child language initially uses fewer projections for domains like CP or DP, (although there is much debate over how to theoretically capture this difference; compare e.g. Hyams 1986, Pannemann 2007, Friedmann et al. 2021) and also that children often appear to opt for unmoved (or less moved) structures compared to adults, including for verb movement of the relevant types.

We have presented a linking model for acquisition and change, and illustrated how that model would work for V2-related changes. We assume children are conservative structure projectors, both for adding unique projec-

tions in the LP and for movement postulation. And, we argue they hold onto to learning-stage (or interim) grammars for some time during development (a view that is consistent with the variability extant in child production data). From these kinds of child conservativity, we find our innovative diachronic stages and render both the rise and fall of V2 dynamically the same – a learning path innovation that actuates into the speech community. We presented two case studies, the rise of V2 in Old French and relatively recent V3 orders in the Germanic Urban Vernaculars, to exemplify and evaluate the theoretical model. In both cases, we relied on language contact, or more precisely widespread *bilingualism*, as the external factor that fostered change. Contact situations prolong learning stages, with the result that conservative, interim representations like a bundled CP or V-to-T are increasingly likely to actuate through peers into the community, and thus catch on as an innovation in the E-language. In the case of Old French, *interference effects* probably also played an additional role.

As with all theories of such general scope and ambition to unify diverse fields, there are issues. We will address one of them here, namely how languages like Modern Italian with richly articulated LPs could arise at all, if children by default bundle features on single heads and are strongly biased against going beyond the input. For the immediate case, the answer is simple: because Italian children are confronted with sufficient co-occurrences of left peripheral constituents to unravel the feature bundle. This does not address the question of how Italian came to have these properties in the first place.

While we can only speculate, a possible solution is that there is continuity from the very free word order of Latin through the medieval phase where Italian had many preverbal constituents and until today. The representations of these preverbal sequences in the I-languages may have shifted over time, being partially contingent on other factors, notably the structural position of the finite verb, which ultimately dictates how preverbal constituents are parsed. Once variable verb movement is reanalysed and fixed to its current position in T, an upwards shift of the preverbal field may have occurred. Another potential source of new projections could be that truly external phrases, which are not even part of the clausal spine, become reanalysed as high topics of the LP. These are just plausible conjectures, and only careful and extensive diachronic data on the process of changing from a relatively free word order language to a rich LP language could decide whether they have merit.

Finally, on our child innovator story for the rise and fall of V2, most of the action in change involves verb movement. We find this attractive because less movement in the innovative grammar is also more consistent with generalized generative change theories (Roberts & Roussou 2003, van Gelderen 2004,

2011), where learner preference for non-movement is inferred from the comparison of many discrete diachronic stages across domains of syntax. So many attested case studies in syntactic change show the loss of movement that theories about syntactic reanalysis have generalized principles about this repeated phenomenon. For example, the “Merge over Move” principle from Roberts & Roussou (2003) argues that the historical evidence suggests that learners have reanalysed morphemes as direct exponents of their landing site, rather than merged lower and moved (as in the diachronically conservative grammar). Similarly, van Gelderen’s (2004) “Late Merge Principle” argues that learners are economical, opting to merge as late in the derivation as possible to represent the input string. Both of these principles appeal to learners reducing movement, when comparing their grammars to the input grammars.

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