FROM INALIENABLE POSSESSION TO REFLEXIVITY: THE DEVELOPMENT OF VEDIC *tanū́*- 'BODY'*

LAURA GRESTENBERGER
Harvard University

Abstract

This paper discusses the development of Vedic Sanskrit *tanū́*- 'body' from an inalienably possessed relational NP into a reflexive marker. The connection between relational NPs and reflexivity has been noted before, but the diachronic development of this connection is not usually discussed. I argue that changes in the ϕ-feature set of relational NPs can turn them into relational anaphors, and that their locality conditions follow from general principles of Agreement rather than from principles specific to Binding Theory, in the spirit of Rooryck and Vanden Wyngaerd (2011).

1 Introduction

This paper discusses the development of a body part NP (*tanū́*- f. 'body') into a reflexive pronoun in Vedic Sanskrit. As I will show, this development can be understood as following from the properties of inalienably possessed NPs and changes in the valuation of their ϕ-features. It is often remarked in the literature on reflexivity that certain relational nouns designating a body part can develop into reflexive markers ("relational anaphors", e.g., Faltz 1977, Safir 2004, Reuland 2011, Rooryck and Vanden Wyngaerd 2011). However, the exact circumstances of this development are rarely discussed in detail. This study is meant as a contribution to filling this gap.

I start by introducing the properties of the middle voice in Vedic and its interaction with inalienable possession in section 2, followed by a discussion of *tanū́*-constructions in section 3. I propose an analysis of these constructions in section 4, based on Rooryck and Vanden Wyngaerd (2011). The theoretical backdrop for this paper is based on recent proposals which try to derive the locality requirement of Principle A of "classical" Binding Theory (following Chomsky 1981) from the properties of reflexive predicates and general principles of agreement, rather than from the antecedence relation between two NPs, e.g. Reinhart and Reuland (1993), Reuland (2011).

This has consequences for our understanding of the diachrony of reflexives. I will argue that this kind of syntactic change can be understood as triggered by changes in the values of the feature set of particular inalienably possessed NPs.

All the examples in this paper are from the Rigveda (unless otherwise indicated), a corpus of hymns composed ca. 1,400–1,200 BCE in today's Northern India and Pakistan. In the following, I cite the passage in which each example is to be found (e.g. 8.46.26a = book 8, hymn 46, strophe 26, verse a). Translations are my own unless otherwise indicated.[1]

2   Reflexivization and inalienable possession

2.1   The middle voice in Vedic

Vedic distinguishes morphologically between an active and a middle voice. The middle has a separate set of inflectional endings and has the range of functions cross-linguistically associated with middle morphology: It is taken by anticausative verbs of the causative alternation, naturally reflexive and reciprocal predicates, self-benefactives, and mediopassives (see, e.g., Klaiman 1991, Kemmer 1993, Alexiadou and Doron 2012 for a discussion of the uses of middle/non-active morphology).[2] Examples of the use of middle morphology with naturally reflexive verbs (e.g., "body action verbs" like *wash*, *shave*, *comb*, etc.) are given in (1).

(1)   Naturally reflexive predicates:

   a.   páva-te   — punā́-ti
      clean-3SG.PRES.MID — clean-3SG.PRES.ACT
      "cleans herself" — "cleans something"

   b.   ne-nik-té   "washes herself" (9.71.3d)
      INT-wash-3SG.PRES.MID

However, it is generally recognized that middle morphology by itself cannot reflexivize a predicate (e.g., Reinhart and Reuland 1993, Embick 1998, Reuland 2011, etc.). Nevertheless, Vedic is usually analyzed as lacking a designated reflexive pronoun or reflexive anaphor. It is therefore instructive to investigate the strategies that this language employs to express reflexivity. As often stated in the literature, reflexive pronouns tend to develop out of "body part NPs" diachronically (that is, NPs meaning 'body', 'head', 'self', etc.). Vedic has two NPs that occur in the relevant contexts, *tanū́-* f. 'body' and *ātmán-* m. 'breath; mind, self'. In this paper, I show how the use of *tanū́-* in reflexive constructions can be understood as following from the syntax of inalienably possessed body part NPs in general.

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[1]The following abbreviations are used throughout: ABL = ablative, ACC = accusative, AOR = aorist, ACT = active, CAUS = causative, CL = clitic, DEM = demonstrative, DU = dual, GEN = genitive, INF = infinitive, INSTR = instrumental, INT = intensive, IPF = imperfect, IPV = imperative, LOC = locative, MID = middle, NOM = nominative, PERF = perfect, PREC = precative, PRES = present, PRVB = preverb, PTCP = participle, REL = relative, SUBJ = subjunctive, VOC = vocative. I use '+' to mark where sandhi between two words has been undone.

[2]Vedic also has a large number of *media tantum*, which are not relevant to the present discussion. Vedic furthermore has a morphologically distinct passive in some tense/aspect stems already in the Rigveda, but this is distinct from the middle both functionally and formally and will not be discussed here.

2.2 Background: SE **and** SELF **reflexives**

It has long been noted that languages with a morphological distinction between active and middle use middle morphology in many of the same contexts in which other languages employ anaphoric clitics (e.g., French, Spanish *se*, German *sich*, Italian *si*, etc.). I will refer to these clitics as SE anaphors (following Reuland 2011) or "simple reflexives". For the reflexive use, compare the examples in (2) (all the Vedic forms are 3sg.mid.):

(2) SE-reflexives

    a. Italian:
        lavare 'wash' — *lavarsi* 'wash oneself'
        uccidere 'kill' — *uccidersi* 'kill oneself'
        pettinare 'comb' — *pettinarsi* 'comb oneself'

    b. French:
        laver 'wash' — *se laver* 'wash oneself'
        tuer 'kill' — *se tuer* 'kill oneself'
        améliorer 'improve' — *s'améliorer* 'improve onself'

    c. German:
        waschen 'wash' — *sich waschen* 'wash oneself'
        verletzen 'injure' — *sich verletzen* 'injure oneself'
        sehen 'see' — *sich sehen* 'see oneself'

    d. Vedic:
        páva-te 'cleans him/herself'
        nenik-té 'washes him/herself'
        pipiśé 'adorns him/herself'

Moreover, as noted by Rooryck and Vanden Wyngaerd (2011), the SE anaphor in these predicates tends to be in complementary distribution with inalienably possessed DPs, as in (4).

(3) a. Jan heeft zich bezeerd (Dutch)
      Jan has   SE   hurt

    b. Jan hat sich verletzt (German)
      Jan has SE   hurt
      "Jan hurt himself"

(4) a. Jan heeft zijn voet bezeerd (Dutch)
      Jan has   his foot hurt

    b. Jan hat seinen Fuß verletzt (German)
      Jan has his   foot hurt
      "Jan hurt his foot"

Rooryck and Vanden Wyngaerd (2011) propose a unified analysis for both structures in which both the possessor and the possessed are embedded under an R(elator)P that is the complement of an unaccusative predicate (based on den Dikken 2006). (5) (their (48b)) is the structure of such a predicate:

(5)   [$_{VP}$ bezeer [$_{RP}$ [$_{DP}$ zich/zijn voet] R [$_{PP}$ P [$_{DP}$ Jan]]]]]
        hurt   SE/his foot   Jan

The possessum, the body part NP, is in the specifier of the RP, while the possessor is the complement of a PP embedded under RP. R+P incorporate into the verb, which assigns accusative case to the possessum, while the possessor raises to SpecTP to receive nominative case:

(6)   Jan bezeer+R+P+T [$_{VP}$ ~~bezeer+R+P~~ [$_{RP}$ [$_{DP}$ zich/zijn voet] ~~R+P~~ [$_{PP}$ ~~P~~ [$_{DP}$ ~~Jan~~]]]]
        Jan hurt   hurt   SE/his foot   Jan

Crucially, the possessum c-commands the possessor before possessor movement to the subject position takes place.

Besides SE anaphors, many languages also have SELF anaphors (or "complex reflexives") in which a relational noun that is usually semantically and phonologically less bleached than SE is combined with a pronoun or an anaphoric element. Examples include English *his-, her-, my-, your-self*, Dutch *zich-zelf*, etc. Contrary to SE anaphors, SELF can be prosodically independent, does not always need a syntactic antecedent, can be modified by adjectives ("modified self", (7)), and can form noun-noun compounds, (8).

(7)   a. Chris Brown being his pathetic self
        b. Learning to be my own self
        c. His usual charming self

(8)   a. self-destruction
        b. self-protection
        c. self-control

Descriptively, *self* adds a proxy or part-of relation to predicates that is reminiscent of the relational behavior of inalienably possessed body part NPs. Reuland (2011:228ff.) incorporates the observation that there is a fundamental connection between the behavior of inalienably possessed body parts and reflexivity in his analysis of anaphoric elements. He argues that body parts are referentially deficient relational nouns of the structure B(ody)P(art)$<x,y>$, where x is the inalienable body of y. Combined with a non-reflexive pronoun (i.e. a structure like [$_{DP}$ PRON [$_{NP}$ BP$<x,y>$]]), the relational NP then contributes a proxy relation to the transitive predicate it covertly incorporates into.

To summarize, languages may employ either or both SE and SELF anaphors in reflexive constructions. Their distribution is usually explained as governed by Principle A of the binding theory:

(9)   *Principle A*
       An anaphor must be bound in its governing category

This predicts the distribution of anaphors in reflexive clauses such as (10).

(10) a. John$_i$ likes himself$_{i/*j}$
        b. Jan$_i$ heeft zich$_{i/*j}$/ zichzelf$_{i/*j}$ bezeerd   (Dutch)
            Jan has   SE   SE.SELF   hurt

While SE anaphors are referentially and prosodically dependent clitics, SELF anaphors can have some degree of syntactic, semantic, and prosodic independence. With this background in mind, we can now turn to the Vedic data and examine whether the distribution of *tanú-* corresponds to that of a SE or a SELF reflexive.

3   From body part NP to reflexive pronoun: *tanū́-* 'body'

We have seen that Vedic uses the middle in the same constructions in which languages which have them use SE anaphors. This is also true for cases in which the direct object is an inalienably possessed NP and the subject is the possessor, parallel to the Dutch and German cases above. Compare the following examples:

(11)   a.   9.15.4a-b:
           eṣá   śŕ̥ṅgāṇi   ... -śíśī-te   ... vŕ̥ṣā
           This horns.ACC   chafe-3SG.PRES.MID   bull.NOM
           "This bull is chafing his horns"

       b.   10.142.5c-d:
           bāhú   ... agne   anu-mármr̥jāno   ...
           Arms.ACC.DU   Agni.VOC PRVB-brushing.MID.PTCP.NOM.SG
           anvéṣi   bhū́mim
           PRVB.go.3SG.PRES.ACT earth.ACC
           "Brushing off your arms, Agni, you go out to the earth"

       c.   6.71.1a-b:
           deváḥ   savitā́   ... bāhū́   ayaṃs-ta
           god.NOM Savitar.NOM   arms.ACC.DU raise-3SG.AOR.MID
           "The god Savitar raised his arms"

       d.   1.101.10b:
           ví   ṣya-sva   śípre
           PRVB open-2SG.MID.IPV lips.ACC.DU
           "Open your lips!"

       e.   10.8.6c:
           diví   mūrdhā́naṃ dadhi-ṣe
           sky.LOC head.ACC   place-2SG.PERF.MID
           "You have placed your head in the sky"

Several things are noteworthy here: First, all these verbs have a productive active-middle distinction, as shown in (12), but choose middle morphology in these constructions.

(12) a. śíśā-ti   — śíśī-te
          sharpen-3SG.PRES.ACT   sharpen-3SG.PRES.MID
          'sharpens something' — 'sharpens for herself'

     b. yáma-ti   — yáma-te
          direct-3SG.PRES.ACT   direct-3SG.PRES.MID
          'direct something/someone' — 'directs herself/something for herself'

     c. dádhā-ti   — dadh-é
          place-3SG.PRES.ACT   place-3SG.PRES.MID
          'places something' — 'places something for herself; takes'

Second, besides the transitive constructions in (11), the middle forms can occur as intransitive or reflexive predicates without a direct object., e.g., *yámate* 'stretches, directs herself', *māmrje* 'has brushed him/herself off', etc. (see (12)). Finally, the direct object in (11) stands in a part-whole relationship to the subject and takes accusative case. Note that there is no possessive pronoun in these constructions.[3]

Vedic also has an NP *tanū́-* f. 'body', which seems to be used as a reflexive pronoun already at the earliest stage of Vedic, agreeing in number with its antecedent and overwhelmingly used with the middle voice. At the same time, it is still used meaning 'body' in the same constructions other body part NPs are used (see (12)). It is clear that the reflexive use of *tanū́-* must have developed out of inalienable possession constructions as in (13):

(13) a. 1.72.3d:
          ásūdayanta   tanvàḥ
          improve.3PL.IPF.MID bodies.ACC
          "They have improved their bodies"

     b. 1.165.5b:
          tanvàḥ   śúmbhamānāḥ
          bodies.ACC adorning.MID.PTCP.NOM.PL
          "... adorning our bodies."

     c. 2.17.2c:
          tanvàm   pari-vyáta
          body.ACC PRVB-gird.3SG.MID
          "He girded his body"

The syntactic properties of the *tanū́-* constructions are the same as of those in (11): middle morphology on the verb and a part-whole relation between the subject and the accusative object. Note that *tanū́-* agrees with its antecedent for number.

Especially in combination with *śumbh* 'adorn' and *pū* 'clean', passages are often ambiguous between the use of *tanū́-* in the meaning 'body' vs. as a reflexive pronoun. There are, however, enough other instances where *tanū́-* can only be a reflexive. In the following, I discuss the properties of this use. The question is whether it is possible to decide if *tanū́-* is a SE or a SELF reflexive in these constructions.[4] As it turns out, there is evidence for both.

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[3]Cases where there is a possessive pronoun or adjective (cp. *svá-* below) usually have an emphatic/focus reading, "his *own* horns", etc.

[4]Most of the following examples come from Kulikov (2007), who glosses *tanū́-* as 'self'.

3.1   Evidence for *tanū́-* = SE

In their discussion of simplex reflexives, Rooryck and Vanden Wyngaerd (2011) discern a number of types of predicates which occur with SE anaphors. In their analysis, these predicates are unaccusatives whose internal argument is an RP. Its specifier is occupied by the possessum SE, while its complement, the possessor, consequently raises to the subject position of the clause (after Agree with SE has taken place). The reflexive uses of *tanū́-* pattern exactly with the verb classes Rooryck and Vanden Wyngaerd (2011) discuss with respect to this analysis.

First, we find a number of grooming verbs or body action verbs (naturally reflexive or reciprocal verbs, e.g., Dutch *zich wassen*, German *sich waschen*, English *wash (oneself)*, etc.):

(14)   a.   1.165.5b:
            tanvàḥ   śúmbhamānāḥ
            self.ACC.PL adorning.PRES.PTCP.MID.NOM.PL
            "adorning (our)selves/(our) bodies"

       b.   4.56.6a:
            punāné   tanvà   mitháḥ
            purifying.PRES.PTCP.MID.NOM.DU self.ACC.DU alternately
            "purifying yourselves/each other in turns"

Related to this are verbs of bodily harm (cp. Dutch *zich bezeren*, German *sich verletzen*, English *hurt oneself*, etc.):

(15)   1.147.4d:
       ánu   mr̥kṣīṣṭa   tanvàṃ duruktaíḥ
       PRVB injure.3SG.AOR.MID self.ACC slanders.INSTR
       "May he injure himself with (his) slander."

Rooryck and Vanden Wyngaerd (2011) point out that there is an agentivity effect with these predicates. While using *zich* indicates low agentivity/intentionality (the action happens unintentionally or is not in the subject's control), the use of *zichzelf* indicates agentivity, that is, the subject is intentionally performing the action on him/herself. They provide a number of diagnostics for this difference which I cannot discuss here. I briefly illustrate the contrast with (16), in which *zichzelf* is compatible with the adverb *opzettelijk* 'intentionally', vs. (17) in which *zich* is only compatible with *onopzettelijk* 'unintentionally' (Rooryck and Vanden Wyngaerd 2011:47).

(16)   Milo heeft zichzelf   (on)opzettelijk   bezeerd (+/- intentional)
       Milo has   REFL.self (un)intentionally hurt
       "Milo hurt himself (un)intentionally"

(17)   Milo heeft zich   *(on)opzettelijk   bezeerd aan de tafel (-intentional)
       Milo has   REFL *(un)intentionally hurt   on the table
       "Milo hurt himself *(un)intentionally on the table"

It has been argued that a similar agentivity effect exists in Sanskrit. I address this claim below in section 3.2.

Furthermore, we find *tanū́-* with verbs of motion and location (cp. German *sich befinden* 'be located at', *sich verstecken* 'hide (oneself)', Dutch *zich bewegen* 'move (oneself)', etc.):

(18)   a.   3.51.11b:
             suté   ní   yacha   tanvàm
             Soma.LOC PRVB direct.2SG.PRES.IPV.ACT self-acc
             "Direct yourself (= stay close) to the Soma!"

       b.   7.104.17b:
             ápa   druhá   tanvàṃ gúhamānā
             behind deception.INSTR self.ACC hide.PRES.PTCP.MID.NOM.F
             "Hiding herself behind deception."

Finally, we find psych verbs with *tanū́-* (cp. Dutch *zich amuseren*, German *sich amüsieren*, English *amuse/enjoy oneself*, etc.):

(19)   a.   8.96.15a-b:
             ádha drapsó   ... -ádhārayat   tanvàṃ ...
             Then Drapsa.NOM   sustain.3SG.IPF.ACT self.ACC
             "Then Drapsa (...) asserted himself ..." (cp. Gm. *sich halten*, *sich behaupten* 'assert oneself')

       b.   3.1.1d:
             agne   tanvàṃ   juṣasva
             Agni.VOC self.ACC.SG enjoy.2SG.MID.IPV
             "O Agni, enjoy yourself!"

This correspondence in verb classes suggests that *tanū́-* has the function of Dutch *zich*, German *sich*, and other SE reflexives. Furthermore, it has the same surface distribution and properties as inherently possessed NPs (cp. (11) and (13)). Rooryck and Vanden Wyngaerd (2011) provide evidence that SE reflexives systematically pattern with inherently possessed NPs in Dutch, to the exclusion of the SELF reflexive, e.g., they have the same behavior with respect to intentionality/volition that was discussed above (cp. (16) and (17)):

(20)   a.   Milo heeft zichzelf   (on)opzettelijk   bezeerd (+/- intentional)
             Milo has   REFL.self (un)intentionally hurt
             "Milo hurt himself (un)intentionally"

       b.   Milo heeft zich *(on)opzettelijk   bezeerd aan de tafel (-intentional)
             Milo has   REFL *(un)intentionally hurt   on the table
             "Milo hurt himself *(un)intentionally on the table"

       c.   Milo heeft *(on)opzettelijk   zijn voet bezeerd aan de tafel (-intentional)
             Milo has   *(un)intentionally his foot hurt   on the table
             "Milo *(un)intentionally hurt his foot on the table"

Both the SE reflexive in (20b) and the inherently possessed NP in (20c) are incompatible with an intentional reading, while this is possible for the SELF reflexive in (20a). This also seems to be true for Vedic, and the similarity of the verb classes with which *tanū́-* combines to those of Rooryck and Vanden Wyngaerd (2011) likewise suggests that we are dealing with a SE/simplex reflexive. However, there are also arguments against such an analysis.

3.2   Evidence for *tanū́-* = SELF

While SE reflexives are "ϕ-deficient", SELF reflexives are more likely to exhibit agreement for person, number, and gender. For example, the Italian 3sg. reflexive anaphor *si* does not agree for number (or gender):

(21)   a. La ragazza si lava
           The girl   SE washes
           "The girl washes herself"

       b. Le ragazze si lavano
           The girls   SE wash
           "The girls wash themselves"

Italian *si*, French *se*, and German *sich* are also defective with respect to person and cannot take participant antecedents. On the other hand, Vedic *tanū́-* takes both participant and 3rd person antecedents and agrees with them in number:

(22)   a. 1.147.2d:
           vandā́rus   te   tanvàṃ   vande   agne
           praiser.NOM your self.ACC.SG praise.1SG.PRES.MID Agni.VOC
           "As your praiser, I praise myself, o Agni."

       b. 3.1.1d:
           agne   tanvàṃ   juṣasva
           Agni.VOC self.ACC.SG enjoy.2SG.MID.IPV
           "O Agni, enjoy yourself!"

       c. 10.8.3c-d:
           árušīḥ   ... ṛtásya   yónau   tanvò   juṣanta
           reddish.NOM.PL   order.GEN womb.LOC self.ACC.PL enjoy.3PL.PRES.MID
           "The reddish [flames] (...) enjoy themselves in the womb of order."

There is some evidence that number agreement with the antecedent was given up later in Vedic and that the accusative singular *tanvàm* was generalized, as in (23) where singular *tanvàm* takes a plural antecedent (see Kulikov 2007:1419 for more examples).

(23)   10.169.3a:
       yā́   devéṣu   tanvàm aírayanta
       REL.PRON.NOM.P. gods.LOC self.ACC move.3PL.IPF.MID
       "... who gave themselves to the gods."

I will argue in section 4 that this loss of ϕ-agreement should be interpreted as the first step towards grammaticalization of *tanū́-* into a reflexive clitic.

Moreover, while SE clitics are semantically empty, SELF anaphors can retain some lexical meaning of their own, like English *self*. The fact that Ved. *tanū́-* it is still ambiguous between the meanings 'body' and 'self'/SELF (e.g., *tanvàṃ śubh-* can mean both 'adorn oneself' and 'adorn one's body') points to a grammaticalization of an NP 'body' into a relational anaphor SELF rather than a SE clitic (cp. Safir (2004:194ff.)). Further evidence in favor of analyzing *tanū́-* as SELF comes from its *phi*-agreement properties (see (22)) and its prosodic independence (it always bears

its own word stress, indicated by the accent). Finally, *tanū́-* makes SELF compounds which are hallmarks of grammaticalized relational NPs, but never possible for SE forms.[5]

(24) a. tanū-kŕ̥t-   'self-made'
         SELF-make

      b. tanū-pā́-   'self-protection'
         SELF-protect

It seems, then, that there is evidence in favor of both an analysis of *tanū́-* as SE and as SELF reflexive.

A further complication for the descriptive analysis of *tanū́-* is introduced by its interaction with the possessive adjective *svá-* 'own'. Kulikov (2007) argues that Ved. *tanū́-* functionally corresponds to a simplex/SE anaphor comparable to Dt. *zich*, whereas the combination of *tanū́-* with *svá-* 'own' corresponds to a complex or SELF reflexive like Dt. *zichzelf*.

To evaluate this claim, let us look at the contexts in which *svá- tanū́-* is used. Not surprisingly, we again see that it takes first, second and third person antecedents.

(25) a. 7.86.2a:
         utá sváyā   tanvà   sám   vade   tát
         and own.INSTR self.INSTR together speak.1SG.PRES.MID this.ACC
         "And I discuss this with myself."

      b. 10.8.4c-d:
         r̥tā́ya   saptá dadhiṣe   padáni   janáyan
         order.GEN seven put.2SG.PERF.MID steps.ACC producing.ACT.PTCP.NOM.SG
         mitrám   tanvè   sváyai
         friend.ACC self.DAT own.DAT
         "You placed seven steps for order, producing a friend for yourself."

      c. 8.11.10c:
         svā́m   ca+agne   tanvàm pipráyasva
         own.ACC CL+Agni.VOC self.ACC please.2SG.MID.IPV
         "Please yourself, O Agni!"

      d. 3.53.8a-b:
         maghávā   ... māyā́ḥ   kr̥ṇvānás   tanvàm pári   svā́m
         donor.NOM   magic.ACC making.MID.PTCP.NOM.SG self.ACC around own.ACC
         "The donor, ... performing magic on himself/his own body."

Although we once again see a correlation with the middle voice, two important caveats are in order here: First, the examples cited in (25a-c) are the only ones attested in the Rigveda that are

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[5]German can actually form compounds with *sich* and verbal abstracts consisting of the definite article plus the infinitive:

 (i)   das Sich-Verteidigen
       the SE-defend.INF
       "The self-defending"

  Whatever the analysis of these may be, it is noteworthy that French *se* and Italian *si* can never appear in such constructions.

unambiguous between a "body" and a "self" reading. That is, *tanú-* can only be interpreted as "self" in these passages. However, the grammaticalization of *svá- tanú-* into a complex reflexive is far from complete and we find passages in which it is ambiguous between a modified body part NP and a genuine reflexive pronoun, cp. (21d) and the following:

(26) a. 10.54.3c-d:
yán mātáraṃ   ca pitáraṃ   ca sākám ájanayathās   tanvàḥ sváyāḥ
as mother.ACC and father.ACC and together create.2SG.IPF.MID self.ABL own.ABL
"As you at once created both the mother and the father from your own body/yourself."

b. 8.44.12a-b:
agníḥ   ... śúmbhānas   tanvàṃ   svám
Agni.NOM   adorning.MID.PTCP.NOM.SG body/self.ACC own.ACC
"Agni, ... adorning his own body/himself."

The second caveat concerns the fact that there is no obvious difference in use between *svá-tanú-* and simplex *tanú-* in comparable cases like the following:

(27) a. 3.1.1d:
... tanvàṃ   juṣasva
  self.ACC.SG enjoy.2SG.MID.IPV
"... enjoy yourself!"

b. 8.11.10c:
svám   ... tanvàm   pipráyasva
own.ACC   self.ACC please.2SG.MID.IPV
"Please yourself!"

In both cases, the god Agni is addressed and there is no reason to assume an agentivity/intentionality effect in (27b) only (compare the Dutch examples in (16-17) and (20)) since the contexts are almost identical.

Rather than analyzing these instances of *svá- tanú-* as complex reflexive, I suggest that this may be an instance of "modified self". This is particularly clear in (28), where *svá-* modifies possessed *tanú-*:

(28) 6.11.2d:
yájasva   tanvàṃ   táva svám
sacrifice.2SG.MID.IPV body.ACC your own.ACC

Translators have rendered *tanvàm táva svám* both as 'your own body' and 'yourself'. This is one of the ambiguous instances of *tanú-* as discussed above (cp. 13). A translation 'sacrifice to your own body' is clearly too literal. I therefore propose that 'your own self' is the right analysis, showing an intermediate step in the grammaticalization 'body' → 'self' → SELF.[6] Since *táva* in (28) is a genitive possessive pronoun, *svá-* cannot function as a possessive anaphor here and is thus better analyzed as an adjectival modifier meaning 'own'. However, this suggests that the other instances of *svá- tanú-* may also be instances of "modified self". According to Patel-Grosz (2013), the property that distinguishes 'modified self' (e.g. Engl. *his pathetic self* etc.) from 'unmodified

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[6]Thus also Jamison and Brereton 2014: II, 785; the reader is referred to this new translation of the Rigveda.

self' (Engl. *herself* etc.) is its failure to incorporate into its nearest predicate head due to an intervening lexical head (i.e. the head of the adjectival modifier), which is also responsible for its lack of sensitivity to Principle A.

This makes the prediction that constructions with simplex *tanū́-* will be sensitive to the locality conditions of Principle A, whereas no Principle A effects are expected for *svā́- tanū́-*. Unfortunately, I have so far not found any environment in the Rigveda that could confirm or disprove this prediction.

3.3   Summary

Comparing the distribution of *tanū́-* in Vedic to that of SE and SELF reflexives in other languages, it quickly becomes clear that there is no clear-cut distinction between these two uses at this stage of the language. In fact, *tanū́-* patterns with SE reflexives in terms of predicate classes and distribution (it is used in the same environment as inalienably possessed NPs), but with SELF reflexives with respect to its prosodic and syntactic independence and its ability to be modified by adjectives and occur in noun-noun compounds.

This suggests that a competition-based approach like that of Safir (2004) may be adequate to capture the distribution of *tanū́-*. In this approach, the choice of interpretationally dependent elements in a given context depends on which forms are generally available in a particular language and environment. For example, Old English did not have a designated reflexive anaphor. Instead, it used its regular pronouns both for reflexive and for disjoint readings (example taken from Safir 2004:96):

(29)   Hi$_i$ gecyston hi$_{i/j}$ (Old English)
       They kissed   them
       "They$_i$ kissed them$_j$/themselves$_i$/each other$_i$"

This is obviously a problem for standard Binding Theory, as well as for other accounts that try to derive the distribution of reflexive and pronominal elements from their feature specification (+/- reflexive, +/- pronominal, etc.). Safir's notion of "most dependent form available", on the other hand, avoids these problems. His Form-To-Interpretation-Principle (FTIP) ensures that in a given environment where the interpretation of a DP *y* depends on a DP *x* the 'most dependent form available' will be selected for *y*.

(30)   FTIP (Safir 2004): If *x* c-commands *y* and *z* is not the most dependent form available in position *y* with respect to *x*, then *y* cannot be directly dependent on *x*.

If *z* is not the most dependent form available in *y*, what Safir calls 'pragmatic obviation' kicks in and ensures that *x* and *z* are interpreted as disjoint in reference. While a language like Dutch has several referentially dependent forms (*zich, zichzelf*, etc.) that compete in different environments, other languages may have just one form—like Old English, where the most dependent forms available are always the pronouns.

I propose that in Vedic, the only dependent form that is available in reflexive contexts is *tanū́-*, which will always be selected. An advantage of this approach is that there is no need to decide whether *tanū́-* is a SE or SELF anaphor or try to assign it +/-anaphoric or +/-pronominal features as in older versions of GB theory. Nor does it need to be characterized as +/-reflexivizing, +/- referential as in, e.g., Reinhart and Reuland (1993). Rather, Vedic simply does not have a form

that is more referentially dependent than *tanū́-*, hence this will be chosen in all contexts where other languages might distinguish between SE and SELF anaphors. Its licensing and agreement properties, on the other hand, follow from its double life as inalienably possessed relational NP, as I will argue in the following section.

4 Licensing *tanū́-*

4.1 Body part NPs and unaccusativity

Given the similarities between the two constructions, the starting point for an analysis of reflexive *tanū́-* should be its behavior as inalienably possessed direct object.

Let us assume that body part nominals like *tanū́-* start out as referentially deficient DPs in structures like in (32). At this point, *tanū́-* 'body' is clearly valued for gender and presumably also for person. As for number, if a a body part NP *x* inalienably possessed by *y* is indeed understood as proxy of *y* (along the lines of Reuland (2011)) or as "inalienable spatiotemporal stage of its possessor/antecedent" (along the lines of Rooryck and Vanden Wyngaerd (2011)[7]), it is reasonable to assume that number is determined by the antecedent through Agree/feature sharing. This gives us the following lexical entry for *tanū́-* 'body, self'; the bracketed asterisk indicates that a value may have been acquired through Agree/feature sharing (following Rooryck and Vanden Wyngaerd 2011's notation):

(31)　*tanū́-* ↔ {P:3, N:(*), G:f}

This means that the number feature on the body part NP is interpretable, but may be unvalued and is therefore expected to act as a probe. This does, however, presuppose that it c-commands the DP it agrees with (at least in many standard approaches to agreement following Chomsky 2001). Rooryck and Vanden Wyngaerd (2011)'s solution to this problem, already introduced in section 2.1, is to assume that we are dealing with underlyingly unaccusative predicates which take an RP complement in which the possessum (*tanū́-*) c-commands the possessor. I exemplify this in (32) with example (22c) repeated here.

(32)　a.　10.8.3c-d:

árṣuīḥ　　　　… tanvò　　jus̄anta
reddish.NOM　self.ACC.PL enjoy.3PL.PRES.MID
"The reddish [flames] (...) enjoy themselves"

b.　[$_{VP}$ *jus̄-* [$_{RP}$ [$_{DP}$ *tanū́-*{P:3, N:_, G:f}] R [$_{PP}$ P [$_{DP}$ *árṣuīḥ*{P:3, N:pl, G:f}]]]]

c.　Agree: [$_{VP}$ *jus̄-* [$_{RP}$ [$_{DP}$ *tanū́-*{P:3, N:pl*, G:f}] R [$_{PP}$ P [$_{DP}$ *árṣuīḥ*{P:3, N:pl, G:f}]]]]

In the relational NP/reflexive construction, *tanū́-* agrees with the possessor for number, (32c). R+P undergo head movement and incorporate into the verb, which assigns accusative case to the possessum. Since Vedic is SOV, both the possessor and the possessum must subsequently raise out of the RP. For reasons of space, I cannot discuss the general question of an unaccusative vs. an unergative analysis of reflexives in more detail here (but see Chierchia 2004 for an unergative

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[7]Rooryck and Vanden Wyngaerd (2011) actually assume this for simplex anaphors like Dt. *zich* etc., but as previously argued, this distinction is unnecessary for the discussion of the Vedic data seen so far.

analysis of reflexives and Reinhart and Siloni 2005 for a detailed critique of the unaccusative analysis).

Under this approach, the ingredients for the development of *tanū́-* into a reflexive pronoun must be a subset of its properties as a body part NP. It is tempting to speculate that the trigger for this grammaticalization is the ϕ-feature set of *tanū́-*. In frameworks that operate with parametric change as the locus of syntactic change (e.g. Roberts (2007)), it is hard to explain that the following two clauses, one containing an inalienably possessed object DP, the other a genuine reflexive, are structurally identical:

(33) a. bāhū́   ayaṃsta
          arms.ACC.DU raise.3SG.AOR.MID
          "He raised his arms"

      b. tanvò   juṣanta
          self.ACC.PL enjoy.3PL.PRES.MID
          "They are enjoying themselves."

It is not clear how one could formulate a parameter change that would change only the syntactic behavior and distribution of the body part NP in (33b), but not that in (33a). On the other hand, in Rooryck and Vanden Wyngaerd (2011)'s framework, anaphors like Dt. *zich* are underspecified for number and gender. We could therefore assume that a referentially deficient body part nominal like *tanū́-* starts out with a feature set as described above ({P:3, N:(*), G:f}, (31)). At this stage, the unvalued number feature on *tanū́-* acts as a probe and agrees with its possessor for number, as outlined in (32). On the other hand, Rooryck and Vanden Wyngaerd argue that a 3sg. SE reflexive like Dutch *zich* has the lexical entry given in (34b), that is, it is defective for gender and number, but must agree with a third person antecedent for person.

(34) a. Vedic *tanū́-* 'self' $\leftrightarrow$ {P:3, N:(*), G:f}
      b. Dutch *zich* $\leftrightarrow$ {P:3*}

While the relational NP *tanū́-* 'self/body' has its own interpretable number and gender feature (evidenced by the fact that can occur on its own and triggers feminine agreement on adjectival modifiers), the reflexive *tanvàm* SE/SELF does not agree for number[8] and generalized the accusative singular exponent, as in (23), repeated in (35). Another example, with a locative singular taking a plural antecedent, is given in (36) (from Kulikov 2007:1419).

(35) 10.169.3a:
      yā́   devéṣu   tanvàm aírayanta
      REL.PRON.NOM.P. gods.LOC self.ACC move.3PL.IPF.MID
      "... who gave themselves to the gods."

(36) 10.66.9d:
      vā́śaṃ   devā́sas   tanvì   ní   māmṛjuḥ
      power.ACC gods.NOM.PL self.LOC.SG into wipe.3PL.PERF.ACT
      "The gods have appropriated the power (lit. "rubbed the power into themselves")."

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[8]There does not seem to be any evidence for its behavior with respect to Gender. Based on the data from Dutch, German, French, Spanish, and Italian, one would predict that *tanvàm* also became defective for Gender at this point.

This would suggest that at this point, its lexical entry is similar to the one of Dutch *zich* in (34b):

(37)   *tanvàm* REFL ↔ {P:3*} (or {P:3*, G:f}, cp. fn. 7)

In this approach, "grammaticalization" of *tanū́-* 'self/body' into *tanvàm* REFL means a change in the ϕ-feature make-up of its lexical entry, consisting of the loss of (some) interpretable, valued features (number, gender). On the other hand, valuation of person via Agree becomes obligatory. This approach then derives the locality constraints on relational anaphors with a comparable history from their descent from inalienably possessed object DPs and the environments in which they appear. Moreover, it leaves open the possibility of language-specific variation in the way the changes in the ϕ-feature set of different relational NPs/body part NPs play out.

I have not said anything about Case at this point. Both the relational NP *tanū́-* 'self/body' and its reflexive offshoot have overt case morphology in Vedic. Whether or not reflexive anaphors and clitics in languages in Dutch, French, Italian, etc., receive accusative Case is a matter of debate and may be a language-specific parameter (for Case on SE: Steinbach (2002), Reuland (2011), Rooryck and Vanden Wyngaerd (2011), against Case on SE: Reinhart and Siloni (2005), Charnavel et al. (2009)). While a more detailed discussion of Case on *tanū́-* is outside the scope of this paper, one could assume, following Chomsky (2000), that it is parasitic on the Agree relation outlined in (32) above.

4.2   Active vs. middle morphology in reflexives

I have so far excluded the role of voice morphology from the general discussion. As we have seen, middle morphology prevails with both *tanū́-* and *svá- tanū́*, as well as in constructions involving inalienably possessed NPs. The use of active voice with *tanū́-* and *svá- tanū́* is a later development, as can be seen by the small number of Rigvedic instances. *Pace* Kulikov, there is no "emphatic usage" for active vs. middle voice in these constructions either, cp. the examples in (38) with active morphology, which are not particularly emphatic compared to any of the constructions with the middle we have seen.

(38)   a.   -ádhārayat   tanvàṃ
              sustain.3SG.IPF.ACT   self.ACC
              "sustained himself, stood his ground" (cp. (19a))

        b.   suté   ní   yacha   tanvàm
              Soma.LOC PRVB direct.2SG.PRES.IPV.ACT   self.ACC
              "direct yourself to the Soma" (cp. (18a))

Hock (2006) notes that the middle gradually stops being used in reflexive constructions in later stages of Vedic and classical Sanskrit and becomes optional with reflexive pronouns. (38a-b) can therefore be interpreted as instances of the beginning of this process.

Later on in Vedic, middle voice became optional in reflexive clauses, maybe indicating that the body part NP had become fully grammaticalized as a reflexive pronoun (post-Rigvedic Sanskrit actually uses *ātmán-* 'breath; soul' (> Hindi reflexive *apne* 'self') instead of *tanū́-*, but the two seem to have been very similar in distribution and development). It is unclear, however, whether middle morphology also became optional with inalienably possessed DPs. Hock (1991:37f.) cites

the Sanskrit grammarian Pāṇini (5th century BCE), who states that the middle is to be used 'if the result of the action benefits the agent', implying that the middle was still productively used in the self-benefactive construction, but that it is optional 'if marked by another word'. Hock interprets the 'other word' as referring to *tanū́-* or its later replacement *ātmán-*, which by then could apparently mark a predicate as reflexive without additionally needing middle voice marking. However, the loss of middle voice in self-benefactive constructions and with inalienably possessed DPs still needs further study and may ultimately be part of a general erosion of the functional distinction between active and middle morphology in post-Vedic Sanskrit.

Even if active morphology did have a discernible "emphatic" function, the question would remain why middle morphology is the unmarked choice in both reflexives and constructions with inalienably possessed body part NPs. I briefly mentioned that middle morphology itself cannot reflexivize a predicate. This is illustrated in (39) with an example from Modern Greek (from Embick 1998). Modern Greek reflexives are formed by incorporating a reflexive marker *afto-* 'self' and always take non-active morphology (the equivalent of Vedic middle morphology), as in (39a). If *afto-* is missing, the interpretation can only be passive, as in (39b).

(39)   a. afto-katastrafo-me
           SELF-destroy-1SG.NACT
           "I destroy myself"

       b. O   Yanis katastraf-ik-e
           the Yanis destroy-PAST.NACT-3SG
           "Yanis was destroyed/*destroyed himself"

This suggests that it is the *afto*-morpheme that introduces reflexivity, and not the non-active morphology. Of course, this immediately begs the question why non-active morphology is found in reflexives at all, if it does not effect any kind of syntactic alternation (especially since (39a) is ungrammatical with active morphology). This is one of the arguments that leads Embick (1998) to argue that voice morphology in Greek-type voice systems is determined *postsyntactically* and depends on a particular syntactic configuration: Non-active voice is assigned whenever *v*P does not introduce an external argument.

(40)   V → V-VOC[NonAct]/_ No external DP
       "Non-active voice is assigned when *v* does not introduce an external argument"

At Spell-Out, a feature [NONACT] is assigned when the relevant syntactic configuration (*v* does not have an external DP argument or the trace of one) is found.

This postsyntactic account reduces the variety of syntactic environments in which non-active/middle morphology is found cross-linguistically (anticausatives, mediopassives, reflexives, etc.) to one single property, the lack of an external argument. It does not specify *why* there is no external argument at the moment *v*P is spelled out, so that different syntactic operations can cause the same morphology (namely non-active morphology) to surface, leading to "voice syncretism". More importantly for our purposes, the analysis proposed in section 4.1 now predicts that middle morphology will surface precisely with *tanū́*-reflexives and inherently possessed body part NPs, since both have been argued to be unaccusatives, with both the possessor and the possessum embedded under VP (cp. (32)):

(41) vP
        |
        VP
       / \
      V   RP
          / \
      tanū́- R
               |
               DP
            POSSESSOR
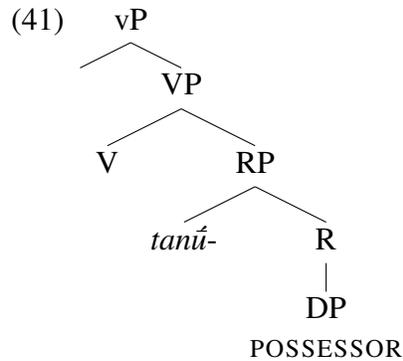
This is an environment for Embick's rule in (40) and hence middle (non-active) morphology surfaces. But it crucially surfaces not because the predicate in (41) is reflexive, but because it does not have an external argument in the right syntactic configuration. Middle morphology is thus indeed epiphenomenal to reflexivization in Vedic, but is still predicted for *tanū́-*/inalienably possessed body part NP constructions under an "unaccusative analysis".

5 Conclusion

The Vedic corpus under discussion offers an example of how an inalienably possessed body part NP gradually develops into a reflexive pronoun. Comparing reflexive constructions with *tanū́-* with other inalienably possessed body part NPs, we have noted that they have the same morphosyntactic properties (agreement for number, accusative case, middle morphology on the verb). Assuming that both reflexives and body part NPs are base-generated in the object position together with the possessor along the lines of Rooryck and Vanden Wyngaerd (2011) has allowed us to derive the number agreement on the possessum, which is unvalued for number, and, at a later stage, person. Because of its unvalued ϕ-feature(s), it acts as a probe and agrees with its possessor, which then moves to the subject position.

The advantage of this account for the Vedic data is that it can provide a unified account of the syntactic behavior of inalienably possessed body part NPs and reflexive pronouns which develop out of them, as well as a reasonable path of development between the two stages. Instead of assuming a change in the syntactic structure of Vedic between a stage where *tanū́-* means 'body' and a stage where it acts as a reflexive pronoun, we can simply assume that the ϕ-feature set of the lexical entry of *tanū́-* changes. Moreover, we have seen evidence that suggests that we do not need to specify whether *tanū́-* is a SE or a SELF anaphor, and we do not have to assume features such as [+/-anaphoric] to account for its distribution. Rather, the properties of *tanū́-* follow from the fact that it is generated in a specific syntactic position (an R(el)P in the complement of a given VP) and that it must agree with a goal in its c-command domain for ϕ-feature valuation. This means that no appeal to principles specific to Binding Theory is necessary, since the syntactic properties of reflexives follow from independently needed operations like Agree.

Finally, this analysis of body part NPs/relational anaphors explains why both constructions take middle morphology. Embick (1998)'s Voice assignment rule predicts that non-active/middle morphology is found in syntactic environments in which *v*P does not introduce an external argument DP, and this is the case in the structures proposed for Vedic *tanū́-*. Middle morphology is therefore epiphenomenal to reflexivity in Vedic, and the fact that we find the same morphology

cross-linguistically in reflexives, anticausatives, dispostional middles, mediopassives, etc., is a strong argument in favor of treating middle morphology in general as postsyntactic.

References

Alexiadou, Artemis, and Edit Doron. 2012. The syntactic construction of two non-active voices: Passive and middle. *Journal of Linguistics* 48:1–34.

Charnavel, Isabelle, Flavia Adani, and Nina Hyams. 2009. The online processing of French reflexives: Experimental evidence for an unaccusative analysis. In *Proceedings of the Tenth Tokyo Conference on Psycholinguistics*.

Chierchia, Gennaro. 2004. A semantics for unaccusatives and its syntactic consequences. In *The Unaccusativity Puzzle*, ed. A Alexiadou, E Anagnostopoulou, and M Everaert, 22–59. Oxford University Press.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A Life in Language*, ed. M Kenstowicz. Cambridge, MA: MIT Press.

den Dikken, Marcel. 2006. *Relators and Linkers*. Cambridge, MA: MIT Press.

Embick, David. 1998. Voice systems and the syntax/morphology interface. In *Papers from the Penn/MIT Roundtable on Argument Structure and Aspect, May 1997*, ed. Heidi Harley. Cambridge, MA: MITWPL.

Faltz, Leonard. 1977. Reflexivization: A Study in Universal Syntax. Doctoral Dissertation, University of California at Berkeley.

Hock, Hans Henrich. 1991. Possessive agents in Sanskrit? In *Studies in Sanskrit Syntax*, ed. Hans Henrich Hock. Delhi: Motilal Banarsidass.

Hock, Hans Henrich. 2006. Reflexivization in the Rig-Veda (and beyond). In *Themes and Tasks in Old and Middle Indo-Aryan Linguistics*, ed. E Pirart, 19–44.

Jamison, Stephanie W., and Joel P. Brereton. 2014. *The Rigveda: The Earliest Religious Poetry of India*. Oxford: Oxford University Press.

Kemmer, Suzanne. 1993. *The Middle Voice*. Amsterdam: John Benjamins.

Klaiman, M H. 1991. *Grammatical Voice*. Cambridge: Cambridge University Press.

Kulikov, Leonid. 2007. The reflexive pronouns in Vedic: A diachronic and typological perspective. *Lingua* 117:1412–1433.

Patel-Grosz, Pritty. 2013. Complex reflexives and the Principle A problem. *Journal of South Asian Linguistics* 6:25–50.

Reinhart, Tanya, and Eric J. Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24:657–720.

Reinhart, Tanya, and Tal Siloni. 2005. The lexicon-syntax parameter: Reflexivization and other arity operations. *Linguistic Inquiry* 36:389–436.

Reuland, E. J. 2011. *Anaphora and Language Design*. Cambridge, MA: MIT Press.

Roberts, Ian. 2007. *Diachronic Syntax*. Oxford: Oxford University Press.

Rooryck, Johan, and Guido Vanden Wyngaerd. 2011. *Dissolving Binding Theory*. Oxford: Oxford University Press.

Safir, Ken. 2004. *The Syntax of Anaphora*. Oxford: Oxford University Press.

Steinbach, Markus. 2002. *Middle Voice: A Comparative Study in the Syntax-Semantics Interface of German*. Amsterdam and Philadelphia: John Benjamins.