ECM and Control in Archaic Chinese[1]

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1. Introduction

In this paper, I examine what is referred to as the 'pivotal' (*jiānyǔ* 兼語) construction in Late Archaic Chinese of the Warring States period (5th – 3rd centuries BCE). In traditional parlance, the pivotal construction involves a nominal argument which appears between two verbs and seems to serve simultaneously as the object of the first verb and subject of the second (Ohta 1958, Chao 1968, Yang & He 1992, Pulleyblank 1995, and others)[2]. For example, *guǎrén* 'me' in (1) is semantically the object of *jiāo* 'teach' and the subject of the following embedded predicate.

(1) 今子教寡人法天合德。 (*Guanzi* 66)
　　Jīn　zǐ　**jiāo**　*guǎrén* [fǎ　　tiān　hé　dé].
　　now you teach me　　imitate Heaven spread virtue
　　'Now you teach me to imitate Heaven spreading virtue.'

However, in the theory of Generative Grammar, beginning with the Government and Binding Theory first proposed by Chomsky (1981)[3], to say that a nominal can be the argument of two verbs amounts to allowing two θ-roles to be assigned to a single argument, which is a violation of the θ-Criterion. Analyzing pivotal constructions as object control circumvents this potential complication. On an object control analysis, the NP in question is base generated as the object of the matrix verb and assigned its θ-role by this verb. This NP

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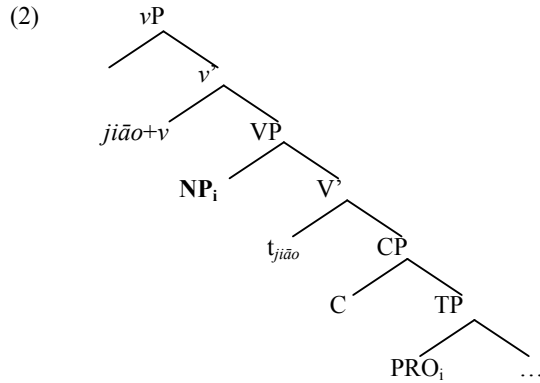
2　Chao, Yuen Ren, *A grammar of spoken Chinese*, Berkeley: University of California Press, 1968.
　Ohta Tatsuo 大田辰夫, *Chugokugo rekishi bunpo* 中国語歴史文法 [Historical grammar of Chinese], Tokyo 東京: Konan 江南書院, 1958.
　Pulleyblank, Edwin, *Outline of Classical Chinese grammar*, Vancouver: UBC Press, 1995.
　Yang Bojun 杨伯峻 and He Leshi 何乐士, Gu Hanyu yufa ji qi fazhan 古汉语语法及其发展 [Archaic Chinese and its development], Beijing 北京: Yuwen Publishers 语文出版社, 1992.

3　Chomsky, Noam, *Lectures on government and binding*, Dordrecht: Foris Publications, 1981.

is coindexed with a null PRO subject in the embedded clause. PRO receives its θ-role from the embedded predicate. In this way, there is no violation of the θ-Criterion, since the NP and PRO each receive exactly one θ-role.

(2)

```
        vP
       /  \
          v'
         /  \
   jiāo+v    VP
           /    \
        NPᵢ      V'
               /    \
           tⱼᵢₐₒ     CP
                   /    \
                  C      TP
                       /    \
                     PROᵢ    …
```

Causative verbs are also traditionally analyzed as pivotal verbs. However, I show in this paper that the causative verb 使 *shǐ* 'make' does not select an NP object in an example like (3a). Rather, *shǐ* selects only an embedded clause, which is a TP. The NP following *shǐ* is not the object of *shǐ* but rather the embedded subject. Given that the embedded clause is only a TP and is consequently nonfinite, this NP must be case-licensed exceptionally as accusative from matrix *v*.

(3) a. 使民敬、忠 (*Analects* 2)
　　　shǐ [*mín* jìng, zhōng]
　　　make people respectful loyal
　　　'make the people respectful and loyal'

　　b.

```
        vP
       /  \
          v'
         /  \
   shǐ+v     VP
           /    \
       tₓₕᵢ      TP
              /    \
            NP      …
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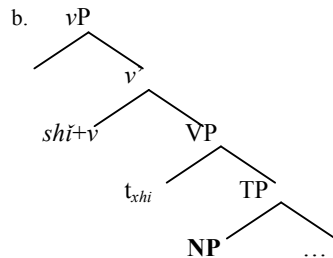
In this paper, I present arguments for these respective structures based on a combination of standard diagnostics and language specific characteristics of Late Archaic Chinese. I begin in section 2 by laying out cross linguistically established diagnostics distinguishing exceptional case marking (ECM) from control and showing that *jiāo* patterns with object control verbs, while *shǐ* has the characteristics of an ECM verb. I add language specific

diagnostics to this argumentation in section 3. The primary conclusion of this discussion is that the NP following *jiāo* has the properties of an object in Archaic Chinese, while the NP following *shǐ* behaves like a subject. In sections 4 and 5, I entertain and ultimately reject two alternative approaches to pivotal constructions in Late Archaic Chinese.

2. Object Control vs. ECM

The key syntactic difference between object control and ECM structures is that there is a direct thematic relationship between the matrix verb and the following NP in the former but not in the latter. This is due to the fact that object control verbs select the controller as an internal argument. In ECM constructions, on the other hand, the matrix verb selects the embedded proposition but not the NP which functions as the embedded subject.

2.1. Object control

In an object control structure, the nominal argument following the matrix verb receives the internal argument θ-role from that verb. Since this NP is the controller of the embedded subject PRO, it is also semantically linked to the θ-role of that argument in the embedded clause. Thus, in (4a), the referent of the matrix object *her* is understood simultaneously as the theme of *persuade*, as well as the agent of *come*. The proposal that *her* receives a θ-role from the matrix verb is further supported by the fact that the thematic relation between this object and the preceding verb is parallel to that in a monoclausal example. In other words, the matrix object in (4a) receives the same theme θ-role as in the monoclausal (4b), in which the object following *persuade* is the sole argument of that verb.

(4) a. I [$_{vP}$ persuaded [$_{VP}$ her$_i$ [$_{CP}$ PRO$_i$ to come]]]
      b. I [$_{vP}$ persuaded [$_{VP}$ her]]

Davies and Dubinsky (2004:6-7)[4] offer additional support for θ-role assignment in the matrix clause from selectional restrictions. In (5a) we see that the predicate *understand* is incompatible with an inanimate subject. The predicate in (5b) does not have this restriction.

(5)   a. *The rock understands.
       b. The rock is granite.

If these predicates are embedded as the complement of *persuade*, the results are both semantically anomalous, suggesting that *persuade* imposes selectional restrictions of its

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4   Davies, William and Stanley Dubinsky, The grammar of raising and control: A course in syntactic argumentation, Oxford: Blackwell Publishing, 2004.
    Rosenbaum, Peter S., The grammar of English predicate complement constructions, Cambridge, MA: MIT Press, 1967.

own on the following NP. Note that this selectional restriction is mirrored in the monoclausal case in (6c).

(6)   a. *I persuaded the rock to understand.
      b. *I persuaded the rock to be granite.
      c. *I persuaded the rock.

Given that the matrix object is semantically linked to both the matrix verb and the predicate in the complement clause, we predict that altering the thematic role of the embedded subject has the potential to affect the interpretation of the sentence as a whole. In other words, as Rosenbaum (1967) shows, changing from active to passive in the embedded clause significantly alters the acceptability. (7b) is semantically anomalous because the controller should be linked to a volitional agent, which is always an external argument. Instead, the embedded subject is an internal argument.

(7)   a. I [$_{vP}$ persuaded [$_{VP}$ Mary [$_{CP}$ PRO to give John a medal]]]
      b. *I [$_{vP}$ persuaded [$_{VP}$ John [$_{CP}$ PRO to be given a medal by Mary]]]

Finally, since the matrix verb selects the following NP, this NP is an argument of the control verb. Therefore, it cannot be an expletive, which is semantically vacuous and incapable of receiving a θ–role.

(8)   a. There was a ceremony.
      b. *I persuaded there to be a ceremony.

2.2. ECM

In contrast to control structures, there is no selectional relationship between the matrix verb and the following NP in an ECM construction. Rather, this NP is merged in the embedded clause and functions as the embedded subject. This is suggested first by the fact that the thematic relation between this class of verb and its object in monoclausal constructions is not carried over to biclausal contexts. In (9a), the third person pronoun is the theme of the verb 'believe'. But this is not the case in (9b). What is being asserted here is belief in the entire embedded proposition. It cannot be belief in *her*, since the embedded proposition asserts that the referent of the third person pronoun is not worthy of trust or belief.

 (9) a. I believe her.
      b. I believe her to be a liar.

Davies and Dubinsky (2004:6-7) further show the lack of selectional restrictions between the matrix verb and embedded subject. Thus, we see selectional restrictions only between the embedded subject and predicate within the embedded clause.

(10) a. *I believe the rock to understand.
    b. I believe the rock to be granite.

The lack of a thematic relationship between the matrix verb and the following NP is also indicated by the possibility of passivizing the embedded clause. In other words, the active and passive variants are synonymous with each other.

(11) a. I expected [$_{TP}$ Mary to give John a medal]
    b. I expected [$_{TP}$ John to be given a medal by Mary]

Finally, expletives are permitted as the NP following the matrix verb. This is possible because this NP is not an argument of the matrix verb.

(12) I expected [$_{TP}$ there to be a ceremony].

2.3. Diagnostics applied to 使 shǐ and 教 jiāo
In this subsection, I apply the diagnostics from sections 2.1 and 2.2 in order to show that Archaic Chinese *shǐ* 'make' is an ECM verb, while *jiāo* 'teach' is compatible with an object control analysis.

2.3.1. 教 jiāo 'teach' as object control
The data available for classical Chinese shows that there is thematic parallelism between monoclausal and biclausal uses of 教 *jiāo*:'teach'. In the biclausal example in (13a), *jiāo* is used to mean 'teach' or 'guide', and the NP following *jiāo* in all of these examples is the theme of this verb, i.e. the one who is taught or guided. This thematic relationship is mirrored in the monoclausal examples in (13b, c). *Jiāo* is also used here to mean 'teach' or 'guide', and the object following *jiāo* is the one who is taught or guided.

(13) a. 尊賢良之人而教之為善。   (*Mozi* 37)
    Zūn   xián liáng zhī rén   ér   **jiāo** *zhī*   [wéi shàn].
    respect wise good GEN person CONJ teach 3.ACC be   good
    'Respect wise and good people in order to teach them to be good.'

    b. 不教民而用之，
    Bù **jiāo** *mín*   ér   yòng zhī,
    not teach people CONJ use   3.ACC
    謂之殃民。   (*Mencius* 12)
    wèi zhī   yāng mín.
    call 3. ACC harm people
    'To use the people without teaching them is to do harm to them.'

    c. 為人兄者，
    Wéi rén   xiōng   zhě,
    be   person brother (elder) DET

必能教其弟。   (*Zhuangzi* 3.7)
bì   néng **jiāo**   *qí*   *dì*.
certainly can   teach 3.GEN brother (younger)
'One who is an elder brother can certainly teach his younger brother.'

This thematic parallelism is also supported indirectly by the lack of any examples of embedded passives or unaccusatives. Since Archaic Chinese, like modern Chinese, has no expletives, this diagnostic cannot be applied to this language.

2.3.2. 使 shǐ 'make' as ECM

Turning now to *shǐ*, in the biclausal examples, *shǐ* is a causative verb, causing the embedded proposition. Note that the embedded subject receives accusative case, as can be seen in the morphological form of the pronoun in (14). This is unsurprising for an ECM construction, given that the embedded clause is nonfinite and therefore does not make nominative case available for the embedded subject. This NP is therefore dependent on matrix *v* for case licensing.

(14)   上賢使之為三公。   (*Xunzi* 12)
        Shàng xián **shǐ**   [*zhī*   wéi sāngōng].
        most   able make 3. ACC be *sangong*
        'The most capable, make them into *sangong* (the highest official rank).'

We can see the lack of thematic parallelism if we compare monoclausal and biclausal cases. Monoclausal uses of *shǐ* have the meaning of 'use' or 'employ', as in (15a). In contrast, biclausal examples like (15b) are causative.

(15) a. 使民以時   (*Analects* 1)
     shǐ   *mín*   yǐ   shí
     employ people with time
     'employ the people according to the appropriate time'

     b. 使民敬、忠   (*Analects* 2)
     shǐ   [*mín*   jìng,   zhōng]
     make people respectful loyal
     'make the people respectful and loyal'

Clear evidence for the lack of a thematic relationship between the matrix verb and the following NP comes from the fact that unaccusatives (16a) and passives (16b) are permitted in the embedded complement clause.

 (16) a. 豈能使五穀常收，
      Qǐ   néng **shǐ**   [wǔgǔ cháng   shōu]
      how can   make grain always harvest

而旱水不至哉？   (*Mozi* 7)
ér   hàn   shuǐ   bù zhì   zāi?
CONJ drought flood not arrive EMPH
'How could (one) make grain always be harvested but drought and flood not arrive?'

b. 善治者，使跖可信。   (*Shangjun Shu* 18)
Shàn zhì   zhě **shǐ**   [Zhí kě   xìn].
well govern DET make Zhi PASS.POT believe
'One who governs well makes it so (the thief) Zhi can be believed.'

The above preliminary investigation of well-known diagnostics distinguishing ECM from control structures yields the initial conclusion that *jiāo* 'teach' is compatible with an object control analysis, while *shǐ* 'make' is better analyzed as an ECM verb. However, only two of the diagnostics from English were actually applicable to Archaic Chinese. In the next section, I introduce language specific diagnostics which lend additional support to the proposal put forth in this paper.

3. Language-specific Diagnostics

In this section, I present additional arguments that *shǐ* 'make' is an ECM verb and *jiāo* 'teach' is an object control verb. I first show that the NP following *shǐ* behaves like a subject and not like a VP-internal object. I additionally provide evidence from constituency to show that the NP following *shǐ* is contained within the embedded clause.

3.1. Subject/object asymmetries
In Late Archaic Chinese, quantified NPs were permitted in subject position but not within the VP. (17) shows *huò* 'someone/something' and *mò* 'none/noone' functioning as subjects.

(17) a. 或謂孔子曰子奚不為政？   (*Analects* 2)
   Huò   wèi Kǒngzǐ   yuē zǐ xī   bù wéi zhēng?
   Someone say Confucius COMP sir why not do government
   'Someone asked Confucius, "Why don't you join the government?"'

   b. 君仁莫不仁。   (*Mencius* 7)
   Jūn rén,   **mò**   bù rén.
   ruler benevolent noone not benevolent
   'If the ruler is benevolent, then noone is not benevolent.'

However, *huò* and *mò* never surfaced in object position. In order to quantify over material in the VP, a quantificational verb or adverb appeared before the VP and quantified over the object or the event as a whole.

(18) a. 不盡收則不盡御。   (*Mozi*, Qihuan)

    Bù **jìn** [VP shōu *pro*] zé   bù **jìn** [VP yù *pro*]

    not all   harvest   then not all   use

    'If (the grain) is not all harvested, then it cannot all be used.'

    b. 不如多與之邑。   (*Zuozhuan*, Cheng 2)

    Bùrú   **duō** [VP yǔ   zhī   *yì*]

    be.better much   give 3. ACC city

    'It would be better to give them more cities.'

A quantificational NP could be base merged in the VP, but it then had to move out of the VP, as in (19a). In (19b), *mò* is merged as an internal argument but moves to subject position in a passive construction.

(19) a. 子入大廟，每事問。   (*Analects* 3)

    Zǐ   rù   dà   miào, [**měi shì**] [VP wèn ___].

    master enter great temple every matter   ask

    'When the master enters the great temple, he asks about every matter.'

    b. 若吾子之德，莫可歌也，

    Ruò [wú zǐ zhī dé], **mò** *kě*   gē ___   yě, ….

    if   my sir GEN virtue none PASS.POT sing.praise NMLZ

    'My good sir, if none of your virtues could be praised in song, ….'

Another diagnostic distinguishing object from subject position was the possibility of null pronominalization. As the dialogue in (20) shows, null subjects were very common in Archaic Chinese. Object position, in contrast, was generally not null. In the second part of the question in (20), the subject is null, but the object is expressed as an overt pronoun, even though the referent of this pronoun is known from the preceding part of the question. Likewise, in the answer, the subject is null, but the object pronoun is repeated.

(20) Q: 君饋之粟，則受之乎？

    Jūn kuì zhī   sù, zé *pro* shòu **zhī**   hū?

    lord give 3. ACC grain then   receive 3. ACC Q

    'If his lord gives him grain, then should (he) take it?'

    A: 受之。   (*Mencius* 10)

    pro shòu   **zhī**.

      receive 3. ACC

    'Yes, he should.'

3.2. Language-specific Constraints Applied to control and ECM structures

Applying the language-specific constraints on VP-internal positions introduced in section 3.1, it can be concluded that the NP following *shĭ* 'make' behaves like a subject and not like an object. First, observe that quantified NPs are permitted in this position. Given that quantifiers like *huò* 'some' and *mò* 'none' never appear in a position immediately dominated by a VP node, the constituent immediately following *shĭ* cannot be the matrix object. No problem incurs, however, if the position following *shĭ* is the embedded subject, since these quantifiers can freely appear in subject position.

(21) a. 使或美，或惡   (*Xunzi* 10)
　　　shĭ [TP **huò** měi], [TP **huò**   è]
　　　make some beautiful some ugly
　　　'make some of them beautiful and some of them ugly'

　　　b. 猶使同事者莫不同名也。   (*Xunzi* 22)
　　　Yóu   *shĭ* [TP tóng shí   zhě **mò** bù tóng míng yě]
　　　be.like make   same substance DET none not same name NMLZ
　　　'It is like making nothing with the same substance not have the same   name.'

Applying the second diagnostic, we see that the position following *shĭ* can be a null pronominal.

(22) a. 故天福之，使立為天子。   (*Mozi* 4)
　　　Gù Tiān   fú   zhī, shĭ [*pro*$_i$ lì   wéi tiānzĭ].
　　　so   Heaven favor 3. ACC make   stand as   ruler
　　　'So Heaven bestowed favor on them and made them be installed as rulers.'

　　　b. 可使治國者，使治國。   (*Mozi* 9)
　　　[Kě shĭ   zhì   guó zhě]$_i$ shĭ [*pro*$_i$ zhì   guó.
　　　can make govern nation DET   make   govern nation
　　　'Those who can be made to govern a nation, make (them) govern a nation.'

It may be countered that the null position in (22b) is not a null pronominal but rather a trace left by movement of the topic in clause-initial position. However, topicalization from object position always required an overt resumptive pronoun in Late Archaic Chinese. In both examples in (23), the pronoun *zhī* resumes the topic in clause-initial position[5].

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5   The pronoun in (23a) is fronted to a position immediately following the negator. This is due to an independent process of object shift in the context negation and is unrelated to topicalization. Note that the resumptive pronoun in (23b) remains in its base position following the verb.

(23) a. 諸侯之禮，吾未之學也。   (*Mencius* 6)
    [Zhūhóu   zhī lǐ]$_i$ wú wèi **zhī$_i$**   xué yě.
    feudal.lords GEN rite I   not.yet 3. ACC study DECL
    'The rites of the feudal lords, I have not yet studied them.'

    b . 子路，人告之以有過。   (*Mencius* 3)
    Zǐlù$_i$, rén   gào **zhī$_i$**   yǐ yǒu guò.
    Zilu   person tell 3. ACC that have error
    'Zilu, someone told him he made a mistake.'

Therefore, if the position following *shǐ* were an object position, there would be a resumptive pronoun referring to the clause-initial topic following *shǐ* in (22b). Given that there is no resumptive pronoun, we must conclude that the position following *shǐ* is not the object of *shǐ* but rather the subject of the embedded clause.

    At this point, let me point out that a raising approach to ECM is also ruled out by the evidence presented thus far in this subsection. On a raising analysis of ECM, the embedded subject would move to a position in the matrix VP where it does not receive a θ-role but can value accusative case, for example a VP-internal AgrO projection (Lasnik and Saito 1991, Johnson 1991, Koizumi 1993, Runner 1995, Hornstein 1999, and others)[6].

(24) I [$_{vP}$ <I> expect [$_{VP}$ her … [$_{TP}$ <her> to [$_{vP}$ <her> come]]]]]

The arguments made by (21) and (22), however, militate against such an approach. These examples clearly show that the NP following *shǐ* cannot be located in matrix object position and therefore could not have undergone raising from the embedded clause.

    In contrast to *shǐ* 'make', I found no examples in which a quantified or null NP followed *jiāo* 'teach' in a biclausal construction. This fact is compatible with the analysis of *jiāo* as an object control verb, since an object control verb selects the following NP as an internal argument in the VP. The following example emphasizes this point clearly by contrasting instances of *jiāo* and *shǐ*. The NP following each of these verbs refers to the same entity in the discourse. But *jiāo* is followed by a pronoun, while the position following *shǐ* is null.

(25) 所謂西伯善養老者，
    Suǒ wéi [Xī Bó shàn   yǎng lǎo] zhě,
    REL say   Xi Bo encourage care   elder DET

6   Hornstein, Norbert, "Movement and control", *Linguistic Inquiry* 30, 1999, 69-96.
    Johnson, Kyle, "Object positions", *Natural Language and Linguistic Theory* 9, 1991, 577-636.
    Koizumi, Masatoshi, "Object agreement phrases and the split VP hypothesis", in: Colin Phillips and Jonathan Bobaljik, eds., *Papers on case and agreement I, MIT Working Papers in Linguistics 18*, Cambridge, MA: MIT Working Papers in Linguistics, 1993, 99-148.
    Lasnik, Howard and Mamoru Saito, "On the subject of infinitives. *Proceedings of the Chicago Linguistic Society* 27, 1991, 324-343.
    Runner, Jeffrey, *Noun Phrase Licensing and Interpretation*. University of Massachusetts, Amherst, dissertation, 1995.

制其田里，教之樹畜，
zhì   qí   tián lǐ,   **jiāo** *zhī*   shù   chù,
manage 3.GEN farm dwelling teach 3. ACC sericulture husbandry
導其妻子，使養其老。   (*Mencius* 13)
dǎo *qí*   *qī*   *zǐ*, **shǐ** [__ yǎng qí   lǎo].
guide 3.GEN wife son make   care 3.GEN elder
'What is meant by saying that Xi Bo encourages caring for the elderly is that he
manages their farmland and dwellings, teaches them sericulture and animal husbandry
and instructs their wives and sons to care for the elderly.'

Further evidence in favor of the ECM analysis of *shǐ* comes from coordination of the
embedded complement. The examples in (26) show that multiple clauses embedded under
shǐ can be coordinated to the exclusion of *shǐ*. This indicates that what follows *shǐ* is a
major constituent, which is predicted if the complement of *shǐ* is the embedded clause TP.

(26) a. 今王發政施仁，使
     Jīn wáng fā   zhèng   shī   rén,   **shǐ**
     now king institute government extend benevolence make
     天下仕者皆欲立於王之朝，
     [TP tiānxià shì   zhě jiē yù   lì   yú wáng zhī cháo]
        world   serve DET all want stand in king GEN court
     耕者皆欲耕於王之野，   (*Mencius* 1)
     [TP gēng   zhě jiē yù   gēng   yú wáng zhī yě] ....
        cultivate DET all want cultivate in king GEN field
     'Now, if your majesty institutes benevolent government, this will make [all those
     wishing to serve want to join your government] and [all farmers want to cultivate your
     fields].'

     b. 今大人欲王天下，正諸侯，
     Jīn dàrén yù   wàng tiānxià, zhèng zhūhóu,
     now you   want rule   world   direct feudal lords
     將欲使意得乎天下，
     jiāng yù   **shǐ** [TP yì   dé   hū tiānxià],
     will   want make will obtain in world
     名成乎後世。   (*Mozi* 9)
     [TP míng chéng hū hòu shì].
        name know in later generation
     'Now, you want to rule the world and lead the feudal lords, and you will want to
     make[your will be done throughout the world] and [your name be known in
     generations to come].'

In the case of *jiāo*, I found no examples involving coordination of material following *jiāo*
which excludes this verb. What I did find was an example in which the entire VP headed by
jiāo is coordinated. What this suggests is that the NP and embedded clause following *jiāo*

do not form a major constituent to the exclusion of *jiāo*. Rather, they are part of the VP headed by *jiāo*, which is why the verb must be included when they are coordinated.

(27) 伯樂教其所憎者相千里之馬，
    Bó Lè [ᵥₚ **jiāo** [qí   suǒ zēng zhě] xiàng qiān lǐ   zhī mǎ],
    Bo Le   teach 3.GEN REL hate DET   select 1000 league GEN horse
    教其所愛者相駑馬。   (*Hanfeizi* 23)
    [ᵥₚ **jiāo** [qí   suǒ ài   zhě] xiàng nú   mǎ].
      teach 3.GEN REL love DET select ordinary horse
    'Bo Le taught those he hated to pick out excellent horses and taught those he liked to pick out ordinary horses.'

In sections 2 and 3, I have argued on the basis of both cross linguistic and language specific diagnostics that *shǐ* 'make' is an ECM verb, while *jiāo* 'teach' is compatible with an object control analysis. The language specific arguments are particularly convincing, since they show that the NP following *shǐ* cannot be an object selected by this verb but rather must be analyzed as the embedded subject.

4. Object-like Properties of ECM Subjects

In this and the next section, I consider two previous approaches to pivotal constructions. In both cases, I show that their diagnostics do not demonstrate what they are intended to. The analysis of *shǐ* 'make' as ECM and *jiāo* 'teach' is therefore sustained.

4.1. v and ECM subjects

Zhang (1987)[7] uses two tests to argue that the NP following a pivotal verb should be analyzed as the object of that verb. The first of these diagnostics is case marking. When this NP is a third person pronoun, an accusative pronoun, unsurprisingly, appears in this position, as shown in (28a). This pronoun is also found as the direct object of a transitive verb, as in (28b). On this basis, Zhang proposes that the pivot nominal in these cases should be analyzed as the object of the matrix verb and not as the subject of the embedded verb.

(28) a. 上賢之為三公。   (*Xunzi* 12)
    Shàng xián **shǐ**   [zhī   wéi sāngōng].
    most able make 3. ACC be *sangong*
    'The most capable, make them into *sangong* (the highest official rank).'

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7   Zhang Zhiqiang 张之强, "Gudai Hanyu 'jianyushi' de jiegoufenxi 古代汉语兼语式的结构分析 [Structural analysis of the Archaic Chinese 'pivotal construction']", Zhongguo Yuwen 中国语文 199.4, 1987, 310-315.

b. 學而時習之。 (*Analects* 1)

Xué ér   shí [xí   **zhī**]

study CONJ time practice 3.ACC

'To study and periodically practice something....'

Zhang also claims that the pivot argument is an object if it undergoes *wh*-movement. *Wh*-constituents were required to raise out of VP in Archaic Chinese, as shown in (29a). (29b) shows that the pivotal argument following *shǐ* 'make' also undergoes *wh*-fronting.

(29) a. 我將何求？ (*Zuozhuan*, Xi 28)

Wǒ jiāng **hé** [$_{VP}$ qiú t_{he}]?

I   will what ask.for

'What will I ask for?'

b. 若子死，將誰使代子？ (*Hanfeizi* 22)

Ruò zǐ   sǐ, jiāng **shéi** shǐ [t_{shei} dài   zǐ?

if you die will   who make   replace you

'If you die, then who shall (I) have replace you?'

Zhang's (1987) diagnostics for matrix objecthood at first glance appear to suggest an object control analysis for pivotal constructions. However, these tests do not in fact serve to distinguish between object control and ECM. I first consider the accusative case test. I mentioned briefly in passing in section 1 that the subject of the embedded TP in ECM constructions exceptionally receives accusative case from the higher *v*. This is due first to the fact that the embedded T is nonfinite and consequently not capable of valuing nominative case on its subject. The embedded subject is able to value accusative case with the higher *v*, because the embedded clause is a TP rather than a CP. Since no phase boundary (defined as *v*P and CP by Chomsky 2004[8] and others) intervenes between matrix *v* and the embedded subject, the accusative case feature on *v* is able to enter into an Agree relation with the embedded subject and assign it accusative case. Both the controller in an object control construction (30a) and the subject of an ECM complement (30b) meet this condition.

(30) a. I [$_{vP}$ ... $v_{[Acc]}$ persuaded her$_{[Acc]}$ [$_{CP}$ PRO to become a doctor]].
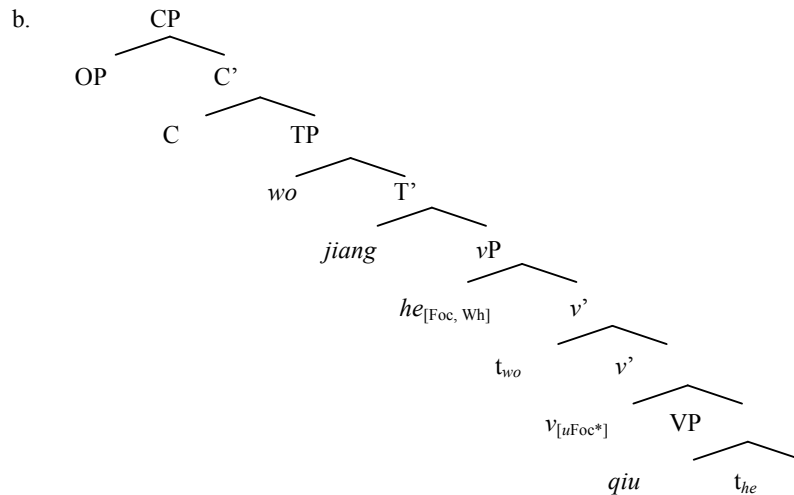   b. I [$_{vP}$ ... $v_{[Acc]}$ expected [$_{TP}$ her$_{[Acc]}$ to become a doctor]].

It is therefore not surprising that the NP following *shǐ* 'make' similarly values accusative case with the matrix v. Even as the subject of the embedded TP, this NP is the closest NP to the accusative case valuing probe on matrix *v*. Note further that no phase boundaries (CP or *v*P) intervene between the NP and matrix *v*.

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8   Chomsky, Noam, "Beyond explanatory adequacy", in: Adriana Belletti, ed., Structures and Beyond: The Cartography of Syntactic Structures, Volume 3, Oxford University Press, 104-191, 2004.

(31) 上賢使之為三公。   (*Xunzi* 12)

Shàng xián [$_{vP}$… [$_{v'}$ $v_{[Acc]}$ **shǐ** [$_{TP}$ $zh\bar{\imath}_{[Acc]}$ wéi sāngōng]]].
most able make 3.ACC be *sangong*
'The most capable, make them into *sangong* (the highest official rank).'

Wh-movement likewise does not serve to distinguish between ECM and control. Aldridge (2010)[9] argues that Late Archaic Chinese *v* carried a focus feature which attracted *wh*-constituents in its c-command domain. These *wh*-phrases then moved to a specifier in the edge of that *v*P.

(32) a. 我將何求？   (*Zuozhuan*, Xi 28)

Wǒ jiāng **hé** [$_{VP}$ qiú t_{he}]?
I will what ask.for
'What will I ask for?'

b.
```
                    CP
                 ／      ＼
               OP          C'
                        ／      ＼
                      C          TP
                              ／      ＼
                            wo          T'
                                     ／      ＼
                                  jiang        vP
                                            ／      ＼
                                 he[Foc, Wh]        v'
                                                 ／      ＼
                                              t_wo        v'
                                                       ／      ＼
                                                  v[uFoc*]      VP
                                                             ／      ＼
                                                          qiu        t_he
```

Since *wh*-movement is triggered by Agree with the focus feature on *v*, all that is required for the *wh*-word to check this feature is that it be in the c-command domain of *v* and no phase boundaries intervene between the *wh*-word and this *v*. These conditions are met in both ECM and object control constructions. Examining the ECM example in (33), the *wh*-word moves from the [Spec, TP] subject position in the embedded clause. This movement proceeds from the embedded TP but does not cross any intervening CP or *v*P phase boundaries.

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9   Aldridge, Edith, "Clause-internal wh-movement in Archaic Chinese", Journal of East Asian Linguistics 19.1, 2010, 1-36.

(33) 若子死，將誰使代子？   (*Hanfeizi* 22)
    Ruò zǐ   sǐ, jiāng [$_{vP}$ **shéi** … [$_{v'}$ $v_{[uFoc]}$ shǐ [$_{TP}$ t_{shei} dài   zǐ]]]?
    if   you die will   who   make   replace you
    'If you die, then who shall (I) have replace you?'

Let me also point out that *wh*-movement is not an unambiguous diagnostic for direct objecthood in the first place. Any VP-internal position could launch *wh*-movement in Late Archaic Chinese. (34a) shows movement of a locative or goal constituent. The object of a preposition undergoes fronting in (34b).

(34) a. 天下之父歸之，其子焉往？   (*Mencius*, Lilou 1)
    Tiānxià zhī fú   guī zhī qí   zǐ **yān** [$_{VP}$ wǎng t_{yan}]?
    world   GEN father settle here 3.GEN son where   go
    'If the fathers of the world settled here, where would their sons go?'

    b. 吾又誰與爭？   (*Zuozhuan*, Zhao 4)
    Wú yòu **shéi** [$_{PP}$ yǔ t_{shei}] zhēng?
    1   then who   with   compete
    'Then who would we compete with?'

Both cases are accounted for on the analysis in (33b), since it is the focus feature on the *wh*-word which enters into agreement with *v*. Lexical categorical and grammatical function are irrelevant.

    I have shown in this subsection that the superficial resemblance between ECM subjects and matrix objects does not warrant a new structural analysis. These characteristics fall out naturally on the ECM analysis of causative constructions put forth in this paper. Put differently, I have shown that Zhang's (1987) diagnostics do not serve to identify grammatical objects, per se, but rather merely indicate that the NP in question is in a local relationship with a c-commanding *v*.

4.2. Evidence from future developments

In the previous subsection, I showed that ECM subjects in Late Archaic Chinese are unsurprisingly able to enter into an Agree relation with matrix *v* for the purposes of case valuing and *wh*-movement. Therefore, Zhang's (1987) diagnostics fail to show that the ECM subject is an object. In this subsection, I offer positive evidence for a clause boundary between the ECM subject and matrix *v* by considering a change in *wh*-movement which took place in Early Middle Chinese beginning in the 1[st] century BCE.

    Wh-in-situ can be observed in texts of the Han period (2[nd] century BCE – 2[nd] century CE). Monosyllabic *wh*-words continued to undergo fronting, as in (35a). But movement of phrasal *wh*-constituents was lost, as shown in (35b).

(35) a. 子將何欲？   (*Shiji* 86)
  Zǐ   jiāng **hé** [VP yù t_{he}]?
  You will what   want
  'What do you want?'

  b. 此固其理也，有何怨乎？   (*Shiji* 81)
  Cǐ gù   qí   lǐ   yě, [VP *yǒu* **hé   yuán**]   hū?
  this ADV 3.GEN way NMLZ   have what complaint Q
  'This is the way things are; what complaint could you have?'

Long distance fronting was also lost in the Han period. What is observed instead is movement within the embedded clause, as in (36a). (36b) shows that fronting across a clause boundary did take place in the Late Archaic period.

(36) a. 吾敢誰怨乎？   (*Shiji* 31)
  Wú gǎn [**shéi** yuàn___] hu?
  I   dare who resent   Q
  'Who do I dare to resent?'

  b. 吾誰敢怨？   (*Zuozhuan*, Zhao 27)
  Wú **shéi** gǎn [yuàn ___]?
  I   who dare resent
  'Who do I dare to resent?'

Aldridge (2012)[10] proposes that the earlier syntactic *wh*-movement was reanalyzed as cliticization as an intermediate stage in the change to *wh*-in-situ. Rather than proceeding to the focus position in the edge of *v*P, *wh*-words in the Han period simply adjoined to the verb which selected them. Crucially, this cliticization was clause bound.

   Wh-words also cease to extract across a causative verb from the Han period. What this suggests is that the causative verb[11] selects an embedded clause, and the *wh*-word is unable to move out of this clause.

(37) a. 若其王在陽翟，
  Ruò qí   wáng zài Yángdí,
  if   3.GEN king be.at Yangdi

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10 Aldridge, Edith, "Focus and Archaic Chinese word order", in: Lauren Eby Cemens and Louis Liu eds., The Proceedings of the 22nd North American Conference on Chinese Linguistics (NACCL-22) and the 18th Annual Meeting of the International Association of Chinese Linguistics (IACL-18), vol. 2, Distributed by NACCL Proceedings Online, The Ohio State University, Columbus, Ohio, 2012, 84-101. http://naccl.osu.edu/proceedings/naccl-22_iacl-18

11 Note that the causative verb in these examples is ling rather than shi. In the Han period, ling was more commonly used than shi. Although I have no explanation for this fact, I have found no evidence that the two employ different structures. I therefore assume that ling is also an ECM verb.

主君將令誰往？   (*Zhanguoce*, Dong Zhou)

zhǔjūn jiāng *lìng* [TP **shéi** wǎng]?

lord   will make   who go

'If there king were in Yangdi, then who would (our) lord send?'

b. 蕭相國即死，令誰代之？   (*Shiji* 8)

Xiāo xiàngguó jí sǐ, lìng [TP **shéi** dài   zhī] ?

Xiao minister if die make   who replace 3.ACC

'Should Prime Minister Xiao die, who should we have replace him?'

This contrasts with objects in ditransitive VPs. So long as the moving constituent was monosyllabic, movement was possible even from the specifier of a VP[12].

(38) a. 公何患於齊？   (*Zhanguoce*, Zhongshan)

Gōng **hé**   huàn *t_he* yú   Qí?

lord   what fear   from Qi

'What do you fear from Qi?

b. 君臣淫亂，民何效焉？   (*Shiji* 36)

Jūn chén   <mark>yín</mark>   luàn, mín   hé   xiào *t_he*   yān?

lord minister improper disorder people what emulate   3.DAT

'If the lord and his ministers behave in an improper and disorderly manner, then what will the people learn from them?'

Given that an object in a VP specifier position was able to undergo fronting, the in-situ *wh*-words in (37) cannot be analyzed as controllers in object control structures.

    In this subsection, I have provided additional evidence from diachronic change for the ECM analysis of *shǐ* 'make'. Early Middle Chinese *wh*-movement clearly argues for the presence of a clause boundary between the matrix verb and the pivotal NP, as predicted by the ECM analysis.

5. Imperative-Complement Approach

In this section, I argue against a second alternative analysis of pivotal constructions. In addition to the traditional pivotal construction, Yue (1999)[13] proposes a second structure in which the matrix verb takes the following nominal constituent as its object and additionally

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12 I have not found any examples of object control wh-words in the Shiji and Zhanguoce with the verbs qing 'ask', ming 'order', qian 'send', jiao 'teach', quan 'encourage', and wei 'tell'. However, the possibility of movement from ditransitive VPs suggests that if examples existed then movement should be possible.

13 Yue, Anne O., "The so-called pivotal construction in Pre-Qin Chinese", in Alain Peyaube and Chaofen Sun, eds., Linguistic essays in honor of Mei Tsu-lin: Studies in Chinese historical syntax, Paris: Center de Recherches Linguistiques sur l Asie Orientale, 1999, 327-360.

embeds an imperative clause in which the subject is an implicit second person pronoun[14]. Her chief evidence for this second claim is that when the embedded clause is negated, an imperative negator must be used. (39a) shows *wu* in a monoclausal construction expressing a negative imperative. (39b) shows this negator in the complement of a verb of command.

(39) a. 非禮勿視。   (*Analects* 12)
    Fēi   Lǐ   **wù**   shì.
    not.be Rites NEG.IMP look
    'Do not look upon what does not conform to the Rites.'

    b. 或謂寡人勿取，或謂寡人取之。   (*Mencius* 2)
    Huò wèi guǎrén [**wù**   qǔ], huò wèi guǎrén qǔ   zhī.
    some tell me   NEG.IMP take some tell me   take 3.ACC
    'Some tell me not to take it; some tell me to take it.'

In contrast to clauses embedded under a verb of command, complements of causative verbs were freer in their employment of negation. It was possible to use an imperative negator or a clausal negator.

(40) a. 長者使余勿言。   (*Zuozhuan*, Ai 16)
    Zhǎngzhě shǐ [yú **wù**   yán]
    elder   make I   NEG.IMP speak
    'The elder bids me not to say anything.'

    b. 使昭公不立。   (*Zuozhuan*, Zhao 11)
    Shǐ   [Zhāo gōng **bù** lì]
    make Zhao duke   not stand
    '(They) make it so the duke Zhao does not ascend.'

Yue concludes that the causative verbs were in transition. While they formerly embedded an imperative complement, during the Late Archaic period they were beginning to take on the characteristics of a pivotal construction.

   Though I agree with Yue's position that *shǐ* involves a different structure from the verbs of command, I disagree with the particulars of her analysis. First, I have argued in sections 2 and 3 that causative verbs embed ECM complements and are not pivotal constructions in the traditional sense. Secondly, use of the imperative negator in the embedded clause does not implicate a second person pronominal subject in the embedded clause. For example, this same negator is found in the complement of subject control verbs and modals. The matrix subject in these examples has the same referent as the external argument of the embedded verb. These happen to be third person in the examples in (41). Therefore, the

14 This proposal is strongly reminiscent of an object control structure. The key difference is that Yue's
   (1999) approach posits a second person pronominal as the embedded subject, while the control approach
   employs a phi-neutral PRO.

appearance of the 'imperative' negator does not entail the existence of a second person subject in the embedded clause.

(41) a. 見害，莫能勿避。   (*Guanzi* 53)
    Jiàn hài, mò$_i$ néng [e_i wù   bì]
    see harm none can   NEG.IMP avoid
    'Upon seeing harm, noone can not avoid it.'

    b. 晉侯欲勿許。   (*Zuozhuan*, Zhao 4)
    [Jìn hóu]$_i$ yù [e_i **wù**   xǔ].
    Jin duke want NEG.IMP allow
    'The duke of Jin wanted to not allow it.'

Additional evidence against the existence of an embedded second person subject comes from the absence of blocking effects in the binding of long distance anaphors. In modern Mandarin, the anaphor *zìjǐ* can be bound by the local subject within its clause or it can be bound by a subject in a higher clause, as in (42a). However, a first or second person potential antecedent in a lower clause blocks binding of *zìjǐ* by a third person subject in a higher clause, as in (42b).

(42) a. 張三認為李四害了自己。
    Zhāngsān$_i$ rènwèi [Lǐsì$_j$ hài-le   zìjǐ$_{i/j}$].
    Zhangsan think   Lisi hurt-ASP self
    'Zhangsan$_i$ thought that Lisi$_j$ hurt himself$_{i/j}$.'

    b. 張三覺得我對自己沒信心。
    Zhāngsān$_i$ juéde [wǒ$_j$ duì zìjǐ$_{j/*i}$ méi xìnxīn].   (Tang 1989:108)
    Zhangsan think   1.SG to self   no confidence
    'Zhangsan thought that I have no confidence in myself.'

The blocking effect was first observed by Huang (1984)[15] and subsequently analyzed by Battistella (1989)[16], Tang (1989)[17], Cole et al. (1990)[18], Huang and Tang (1991)[19], Cole and Sung (1994)[20], Cole and Wang (1996)[21], Pollard and Xue (1998)[22], Pan (1998)[23],

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15 Huang, Yun-Hua, "Chinese reflexives", Studies in English Literature and Linguistics 10, 1984, 163-188.
16 Battistella, Edwin, "Chinese reflexivization: A movement to INFL approach", Linguistics 27, 1989, 987-1012.
17 Tang, C.-C. Jane, "Chinese reflexives", Natural Language and Linguistic Theory 7, 1989, 93-121.
18 Cole, Peter, Gabriella Hermon, Li-May Sung, "Principles and parameters of long distance reflexives", Linguistic Inquiry 21, 1990, 1-22.
19 Huang, C.-T. James and C.-C. Jane Tang, "The local nature of the long-distance reflexives in Chinese", in: Jan Koster and Eric Reuland, eds., Long distance anaphora, Cambridge: Cambridge Univeristy Press, 1991, 263-282.
20 Cole, Peter and Li-May Sung. "Head movement and long-distance reflexives", Linguistic Inquiry 35, 1994, 355-406.

Huang and Liu (2001)[24], and others. What is relevant to the discussion at hand is that Yue's (1999) analysis predicts that a long distance reflexive embedded in the complement of a verb of command should not be able to refer to a subject outside that clause. However, this prediction is not borne out. Late Archaic Chinese also had a long distance reflexive己*ji*. Like modern Mandarin *zìjǐ*, Archaic Chinese *jǐ* could refer to a clause-mate subject or could be bound long distance. In (43a), *jǐ* is bound by the local subject, while in (43b), *jǐ* in the embedded clause takes the matrix subject as its antecedent.

(43) a. 脩己以安人。   (*Analects* 14)
    e$_i$ xiū **jǐ$_i$** yǐ   ān   rén.
       train self COMP protect person
    'Train yourself in order to protect other people.'
    b. 不患人之不己知。   (*Analects* 1)
    e$_i$ bù huàn [rén   zhī bù **ǐ$_i$**   zhī].
       not worry others GEN not self understand
    'Do not worry that others do not understand you.'

When embedded in a clause selected by a verb of command, this anaphor could refer to the matrix subject.

(44) 大叔命西鄙、北鄙貳於己。   (*Zuozhuan*, Yin 1)
    Dàshū$_i$ mìng [xī   bì   běi bì   èr   yú **jǐ$_i$**].
    Dashu order west terr. north terr. subordinate to self
    'Dashu ordered the western and northern territories to subordinate themselves to him.'

This fact presents a problem for Yue's (1999) analysis, because she assumes that the embedded subject is underlyingly a second person pronoun. She therefore predicts that the anaphor in the embedded clause in (44) should not be able to refer to the matrix subject, counter to fact.

   On the basis of the two preceding arguments, I conclude that the appearance of the negator *wù* in the embedded clause is not evidence for a null second person subject. This, however, leaves open the question of what role *wù* plays in these embedded clauses. I suggest here that its appearance may correlate with irrealis mood. This account can unify the imperative examples in (39) with the modal contexts in (41). If *wù* appears in irrealis contexts, we might expect also to see it used regularly in conditional clauses. Gong (2010)[25]

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21 Cole, Peter and Chengchi Wang. "Antecedents and blockers of long-distance reflexives: The case of Chinese ziji", Linguistic Inquiry 27, 1996, 357-390.
22 Pollard, Carl and Ping Xue, "Chinese reflexive ZIJI: Syntactic reflexives vs. nonsyntactic reflexives", Journal of East Asian Linguistics 7, 1998, 287-318.
23 Pan, Haihua, "Closeness, prominence, and Binding Theory", Natural Language and Linguistic Theory 16, 1998, 771-815.
24 Huang, C.-T. James and C.-S. Luther Liu, "Logophoricity, attitudes and ziji at the interface", in: Peter Cole, Gabriella Hermon, and C.-T. Huang, eds., Syntax and semantics 33: Long distance reflexives, New York: Academic Press, 2001, 141-195.
25 Gong, Bo 龔波, "Cong jiashe ju de foding xingshi kan jaiguwen zhong de 'wu'/'wu' and 'bu'/'fu' zhi

argues that this was indeed the case in Pre-Archaic Chinese oracle bone inscriptions, though *wù* in conditionals came to be replaced by other negators in the Late Archaic period.

As to the contrast between the two examples in (41), another fact about *wù* is that it is only used in transitive, agentive clauses[26]. The embedded clause in (41a) is clearly agentive, with a volitional agent. The embedded clause in (41b), on the other hand, has the hallmark appearance of an unaccusative. The subject is the internal argument of the embedded verb and consequently cannot be an agent.

In this and the preceding section, I have considered and rejected alternative analyses of pivotal verbs. I thus maintain the analysis proposed in this paper that the causative verb *shǐ* is an ECM verb, while *jiāo* 'teach' is an object control verb. I assume for the present that command verbs like *wèi* 'say' in (39b) also involve object control, but I save this investigation for future research.

6. Conclusion

This paper has argued on the basis of a variety of diagnostics that the causative verb *shǐ* 'make' in late Archaic Chinese embedded a TP complement whose subject was exceptionally case-marked by the higher *v*. In contrast to this, *jiāo* 'teach', was an object control verb. In this way, I have shown that pivotal constructions do not comprise a unitary class. The conclusions of this paper clearly show that we must look beyond surface similarity and scrutinize structural properties in order to adequately account for the grammar of Archaic Chinese.

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bie 从假设句的否定形式看甲骨文中的勿、弜与不、弗之别 [Differences between the negators 'wu' and 'wu' versus 'bu' and 'fu' as revealed in conditional clauses in the oracle bone inscriptions]", Zhongguo Yuwen 335.2, 2010, 162-167.

26 See Boodberg (1934), Feng (1984), Wei (1999), and others for a view that the final /-t/ reconstructed for Old Chinese 勿 wu is an incorporated object pronoun.