## ZHI and ZHE: A Note on the Historical Development of Chinese Relative Clauses

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Old Chinese had two relative clause-forming morphemes, which at first blush appear to be in complementary distribution. A headless subject relative clause is followed by ZHE, as in (1a). If the relative has an external head, then ZHI appears between the clause and head nominal. One possible analysis of the two types of relative clause might be to analyze ZHE and ZHI as different phonetic realizations of D taking a CP complement. We could assume a TP-fronting analysis of old Chinese relative clauses, in which the head nominal moves to [Spec, CP] in the embedded clause, followed by fronting of the remnant TP to [Spec, DP]. In the Morphological Component, when D's complement contains phonetic material, i.e. when an overt NP has moved to [Spec, CP], then D is spelled out as ZHI. Otherwise, D is spelled out as ZHE.

In this paper, however, I propose a different analysis. First, it is not possible to analyze ZHI and ZHE as occupying the same structural position, because the two can co-occur. (2a) is an externally headed relative clause in which the head nominal precedes the clause. ZHI follows the head; ZHE also appears in this constituent, following the modifying clause.

Note further that the head nominal in (2a) is definite. It refers specifically to a discourse topic. Cases like (2a) contrast significantly with examples like (2b). There is no ZHI between the head NP and the rest of the clause in (2b), and the head NP has an indefinite interpretation. The association between ZHI and definiteness is further exemplified by the existential construction in (3). Internally headed relative clauses could appear in old Chinese as the complement of existential verbs in order to introduce a discourse referent. Therefore, the referent of an internally headed relative clause is indefinite, but specific. As shown in (3), ZHI cannot intervene between the head and the clause, since this would force a definite reading for the head NP.

The contrast in (4) shows that a subject or adverb preceding ZHI occupies a higher structural position than a subject or adverb without ZHI. In (4a), the adverb *hou* 'later', appearing with ZHI, is interpreted with wide scope, outside the constituent headed by the relativizer ZHE. In (4b), the adverb without ZHI is interpreted inside the ZHE constituent, modifying only the verb. The interpretive difference clearly shows that the adverb in both examples cannot be located in the same structural position. Placing the adverb in (4a) in the specifier of DP accounts for it's wide scope interpretation.

I propose the analysis in (5). Only ZHI occupies the D head position. This accords well with the intuition that the appearance of the DP layer is associated with definiteness. ZHE is the head of a lower functional projection nP, which is neutral with respect to definiteness. I leave aside the question here of whether zhe is underlyingly head-initial or head-final.

This analysis has significance for the diachronic analysis of relative clause structure in Chinese. Simpson (2001) claims that the modern Chinese relative clause former DE (see 6) derives historically from ZHI (and not ZHE). However, such a claim requires assuming that ZHI loses its associated definiteness. Throughout the classical period and beyond, relative clauses containing ZHI were either definite or generic, as is the case of the discourse topic in (7). ZHE, on the other hand, did not have such a restriction. Recall the specific indefinite ZHE relative in (3). (8) shows a ZHE relative which is generic. ZHE additionally can occur with definite or topicalized constituents. The semantic evidence, therefore, points to the origin of DE as ZHE (and not ZHI), as proposed by Lu (1955) and others. This claim is also compatible with structural evidence, for example the fact that modern Chinese relative clauses naturally appear in a position lower than demonstratives and numeral classifiers, as can be seen in (6).

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(1) a.
          欲
                 戰
                        者
                                     可謂
                                                眾
                                                          矣。
[DP[TP e]
          Yu
                 zhan] zhe [_{CP} t_{TP}]] ke wei
                                                zhong
                                                          vi.
          desire fight
                       ZHE
                                     Pot say
                                                majority
                                                          Asp
      "(Those) who desire to fight can be said to be majority."
                                                             (Zuozhuan, Cheng 6)
   b. 豈
            若
                                  澼
                                          世
                                                 之
                                                          +
            ruo cong [DP [TP e
                                                 zhi [CP
                                  bi
                                          shi 1
                                                                    zai. (Analects, Weizi)
      qi
                                                          shi t_{TP} ]]
      how like follow
                                  escape world ZHI gentleman
                                                                    Excl
      "How could that compare to following a gentleman who escapes from the world?"
      馬
                                  死 者
                                           十二三
                                                        矣。 (Zhuangzi, Mati)
(2)a.
   [DP ma
             zhi [CP
                        pro [TP
                                  si zhe]]] shi er san yi.
                                  die ZHE 10 2
      horse Gen
                                                        Asp
       "Of the horses, 2 or 3 out of 10 have died."
   b.
          臣
                 弒
                            其
                                     君
                                          者
                                                有
                                                      之。
   [DP [CP chen
                 shi
                                     jun] zhe] you
                             qi
                                                       zhi.
        minister assassinate 3s.Gen lord ZHE exist this
      "Ministers who assassinate their lords do exist."
                                                          (Mencius 6)
(3)
                \bigvee
                     (*之)
                                         其
                                                          之
                                                               雞
                                                                         者。
                             H
                                   攘
      you [DP ren (*zhi) ri
                                   rang qi
                                                lin
                                                          zhi
                                                                ji
                                                                         zhe].
               person Gen daily steal 3.Gen neighbor Gen chicken
                                                                         ZHE
       "There is someone who steals chickens from his neighbor every day." (Mencius 6)
(4) a. 以 待
                        後
                               之
                                            者。
                                                                        (Mencius 6)
      yi dai
                    DP hou
                               zhi
                                     [xue
                                            zhe]]
      C anticipate
                        later
                              Gen
                                     study
                                            Rel
      "... in anticipation of future scholars."
                       不得與於
                                                                 (Analects, Zihan)
   b. 後
             死 者
                                         斯文
                                                   忧。
                       bu de yu yu
      [hou
             si zhe]
                                         si wen
                                                   ve.
                        not can be with
             die Rel
                                         thisculture Decl
      "One who will die later (humble 1st person expression) is unable to be with this culture."
(5)
      [DP [D, zhi [nP CP zhe]]]
                    ben
(6)
      zhe
             san
                           [[wo
                                  mai]
                                                shu
                                         de]
             3
                    Cl
                                  buy
                                         DE
                                                book
      Dem
      "These three books which I bought."
(7)
             不
                    材
                           ナ
                                  木
                                                          所
                                                                 口
                                                                        用。
      是
                                         也,
                                                無
      [Shi
             bu
                    cai
                           zhi
                                  mu]
                                                          [suo
                                                                 ke
                                         ye,
                                                wu
                                                                        yong].
             Neg
                           Gen
                                  tree
                                         Top
                                                not.exist
                                                          SUO
                                                                 Pot
      Dem
                    use
                                                                        use
       "This useless tree cannot be used for anything."
                                                                 (Zhuangzi, Renjianshi)
                 仁
                                      憂。
(8)
                        者
                               不
                       zhe<sub>i</sub> ]] bu
                                                (Analects, Zihan)
   [DP[CP e_i [AP ren]]
                                     vou.
                 virtue ZHE Neg
                                     worry
       "One who is virtuous does not worry."
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## References

Simpson, Andrew. Definiteness Agreement and the Chinese DP. *Language and Linguistics* 2.1:125-156. Lu, Shuxiang. 1955. Lun *di3*, *di4* zhi bian ji *di3*-zi de youlai [On the differences between *di3* and *di4* and the origin of *d3*]. In S.-X. Lu, *Hanyu Yufa Lunwenji*, 51-58. Beijing: Kexue Chubanshe.