# Noun class and number in Kiowa-Tanoan: Comparative-historical research and respecting speakers' rights in fieldwork[1]

Logan Sutton

*University of New Mexico*

The Kiowa-Tanoan family is known to linguists by two characteristic features: a) a package of complex morphosyntactic structures that includes a typologically marked noun class and number marking system and b) the paucity of information available on the Tanoan languages due to cultural ideologies of secrecy. This paper explores both of these issues. It attempts to reconstruct the historical noun class-number system based on the diverging, yet obviously related, morphosemantic patterns found in each of the modern languages, a study that would be greatly benefited by fieldwork and the input of native speakers. At the same time, it reviews the language situation among the Kiowa-Tanoan-speaking communities and what some of the difficulties are in doing this kind of fieldwork in the Pueblo Southwest, touching on the myriad complex issues involving the control of information and the speech communities' rights over their own languages as well as the outside linguist's role in such a situation. The paper underscores these points by using only language data examples from previous field research that are already available to the public so as not to compromise native speakers' sensitivity to new research on their languages.

**1. INTRODUCTION.** The Kiowa-Tanoan languages exhibit a typologically unusual system for dividing nouns into classes and marking number. Generalizing over all of the languages, nouns are distributed across four noun classes which have largely been determined by the grammatical number denoted by the basic form as opposed to a form with an inverse suffix which 'reverses' the basic number, e.g. basic singular becomes inverse plural, or basic plural becomes inverse singular. Although the five languages (Kiowa, Tewa, Northern Tiwa, Southern Tiwa, and Towa) differ to a greater or lesser extent among their systems, they demonstrate numerous similarities that are suggestive of the organization of the his-

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torical system from which the synchronic ones derive. This paper represents a preliminary attempt to reconstruct the semantic structure of that proto-system. The following discussion will outline the synchronic patterns found in each of the modern languages, compare and contrast the major differences between the systems in order to isolate the likely historical conservations from the innovations, and finally hypothesize what some of the semantic bases of that system may have been.

**1.1. DATA.** The published literature on the Kiowa-Tanoan languages is rather sparse, most of it having been produced in scattered articles before 1970. Several unpublished dissertations based upon fieldwork—from the Tragers' work on Northern Tiwa in the 1930s-60s to Yumitani's work on Towa in the 1980s-90s—have filled in many gaps in our knowledge about the Kiowa-Tanoan languages. One main reason for this lack of published comprehensive descriptions has been a desire by the speakers of the languages—especially among the Pueblo communities—not to have their languages written down and their privacy invaded by outsiders. As such, the author of this paper limits himself to the available data in print, although some of the analyses and conclusions have been informally enriched and verified from his own experience in working with native speakers.

The present collection extols the many benefits of deriving linguistic analyses from data collected in the field. It may therefore be surprising that I base the hypothesis and the conclusions of this paper on data collected by somebody else. Despite the fair amount of information that can be gleaned from the work that has been done to date on Kiowa-Tanoan languages, a great deal more fieldwork is still required before a comprehensive treatment of the languages can be produced. This is especially true for an analysis of the noun class systems discussed here, which ideally requires the collection of huge quantities of vocabulary with concomitant grammatical features. This can only come from eliciting from native speakers word lists and narratives to see the usage of these words. However, with all of the virtues of fieldwork—indeed, most linguistic work is ultimately owing to native speakers sharing their languages—there are restrictions that must be recognized and respected. These restrictions do not derive from the quality of the data, but rather from the respective roles of the linguist and the native speakers in the fieldwork situation. It is easy for the naïve linguist to think about going to the field, finding consultants, doing elicitation, and coming back with data on which to base his or her studies, but what about the native speaker? Linguistic fieldwork by its nature requires working with other human beings. What the linguist needs to take into consideration is the fact that these other human beings also have a say and may have their own goals in the fieldwork process. This can realize itself in at least two ways: a) what the speakers are willing to divulge, and b) what the speakers think the linguist can do for them.

The Pueblos are renowned among linguists and anthropologists for their tradition of secrecy regarding aspects of their culture. With respect to language, this has meant a reluctance or downright refusal to allow the languages to be transcribed to the written medium and to be learned by outsiders. For those linguists who have had the good fortune to work with Pueblo speakers, this perspective has meant that any data collected in the community should not be easily accessible to other outsiders. This is obviously going to put severe restrictions on publication, the product towards which most academics are striving and,

indeed, are often obligated to produce in order to receive funding. Those works that have been published on Pueblo languages have often been done so without the communities' consent or with only the consent of a handful of speakers who prefer to remain anonymous (the means by which George Trager produced his numerous articles on Taos Tiwa). Of course once the data are collected, the linguist could choose to go against the wishes of the community and publish anyway, but the unscrupulousness of this act goes without saying.

The other question that is raised concerns the benefit the linguistic work has to the speech community. It is standard practice to pay the consultants with whom one works, but it must be borne in mind that this payment is a recompense for the speaker divulging information concerning part of his or her cultural heritage. In the case of most Native American communities—as well as other communities all around the globe—this heritage is in danger of disappearing under the weight of external social pressures. Members of the communities often recognize this fact and want to take action to prevent this loss. In this the linguist can help more than by simply providing a little income. Whatever the linguist's own personal linguistic goals in doing the fieldwork, s/he can—and should—assist the members of the community in their own linguistic endeavors insofar as s/he is able. This often means producing accessible pedagogical materials for the language and teaching native speakers how to analyze their own language in order to facilitate an intra-community language revitalization program. It is even the case nowadays that language revitalization efforts are being initiated within the speech community, with linguists being invited to assist in this effort. Such collaborative linguistic efforts can be of benefit to all parties; but, however the fieldwork is instigated, the linguist needs to keep in mind just what kind of payment s/he actually owes the speech community.

These issues lie at the heart of working with the Kiowa-Tanoan family of languages. Out of respect for the desire of Pueblo communities to have discretion over their own languages, the author has not drawn any data from his own fieldwork, grounded as it has been in collaborative community-based language revitalization projects. All data for this study therefore come from available articles, dissertations, and notes that are publicly accessible. This decision is not without its own moral dilemmas in respecting the rights of speakers over their own languages, but the author will leave it to the reader to decide whether it is justifiable or not.

**2. NOUN CLASS AND NUMBER IN THE MODERN KIOWA-TANOAN LANGUAGES.** This section will outline the synchronic formal and semantic features of the noun class systems of the five Kiowa-Tanoan languages. The languages are presented in the following order: Kiowa (section 2.1), Towa (section 2.2), Tewa (section 2.3), and Northern and Southern Tiwa (section 2.4).

**2.1. KIOWA.** Compared to the other Tanoan languages, Kiowa (Anadarko, Carnegie, and Lawton, Oklahoma) has had a huge amount of fieldwork done on it and has received some description in a sizable number of publications, from the lengthy word list in Mooney (1898) to Harrington's impressive (1928) vocabulary to Watkins' excellent (1984) grammar, among others. Unlike the Pueblo groups, the Kiowa belong to the very different Plains

cultural area, which does not have—as a general rule—as stringent a code of secrecy regarding language.

The Kiowa system maintains a basic-inverse number marking strategy delineating four classes into which nouns fall with respect to this strategy. The intricacies of the noun class system have been continuously analyzed and reanalyzed by scholars (Harrington 1928, Wonderly et al. 1954, Merrifield 1959, Trager 1960, Watkins 1984), rendering it the best described of all the Kiowa-Tanoan noun class systems. As will be seen in the next two sections, this system is similar to those in Towa and Tewa, but differs significantly in certain core aspects.

Noun class and number are formally marked in two main areas of the grammar: in the pronominal prefixes of the verb—portmanteau morphemes that index the person and number of the core arguments of the verb—and in the number suffix on nouns. Other elements in a noun phrase, notably demonstratives and some adjectives, are also marked for number. Because it most clearly highlights the basic versus inverse number contrast that forms the basis of the noun class distinctions, the number suffix on nouns will be illustrated first.

The inverse suffix in Kiowa has many allomorphs, the most productive of which—and therefore taken to be the most representative—is {-gɔ́}. The other forms (*-mɔ́, -bɔ́, -dɔ́, -tɔ́, -gú, -óy, -óp,* falling tone) are determined both phonologically and lexically, but do not appear to be conditioned by noun class in any way (Watkins 1984: 80). The number semantics of this morpheme depends upon the class of the noun to which it attaches. When attached to a class I noun, it indicates plural number, while its absence (the basic form) indicates either singular or dual. On a class II noun, it indicates singular, while the basic stem is both dual and plural. With class III nouns, the inverse marks singular and plural, leaving the basic to indicate dual number. Class IV is *prima facie* based on the absence of inverse marking: the basic form is used no matter the grammatical number. (1) illustrates this number marking, the distinctions being highlighted (data from Watkins 1984):

(1)　　　<u>Basic</u>　　　　　　　　　　<u>Inverse</u>[2]

   I　　*tógúl* 'young man' (SG/DU)　　　*tógú:dɔ́* 'young men' (PL)

   II　　*ɔ̀nsó:* 'feet' (DU/PL)　　　　　*ɔ̀nsôy* 'foot' (SG)

   III　　*álɔ̀:* 'apples' (DU)　　　　　　*álɔ̀:bɔ̀* '*apple*, apples' (SG/PL)

   IV　　*hóldà* 'dress, dresses' (SG/DU/PL)

As first pointed out in Merrifield (1959) and later reconfirmed in Watkins (1984), noun class membership cannot be based solely upon the distribution and semantics of the inverse suffix. The pronominal indexation prefix on the verb appears to play a much more sig-

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[2] Abbreviations used in this paper are: BAS='basic number'; DU='dual'; IMP='imperative'; INDF='indefinite'; INV='inverse number'; PL='plural'; PST='past'; SG='singular'. For the pronominal prefixes 1, 2, 3 are for person; S, D, P are for number; A, B, C in Tiwa are for noun class marking; INAN in Tewa is for inanimate singular/plural subject; the order in di/tri-valent pronominal prefixes is Subject:Dative:Object.

nificant role in concisely determining the class (and subclass) of nouns.[3] For third person arguments, there are four formal number distinctions in the pronominal prefix paradigm:[4] singular (*Ø-*), dual (*è-*), plural (*gyà-*), and inverse (*è-*). It is by the distribution of these number distinctions in correlation with the inverse suffixation pattern on nouns by which the noun classes may be most succinctly analyzed.[5] The following examples illustrate the number distinctions for each of the noun classes with respect to the pronominal indexation.

The indexation for class I nouns matches the pattern shown with the inverse suffix: singular takes the singular prefix, dual takes the dual prefix, and plural takes the inverse prefix. Note that the demonstratives are also marked for basic versus inverse number.

(2)  (Watkins 1984:97)

a.  *ę́:dè*        *sân*        *Ø-khóp-dɔ́:*
    this.**BAS**   child.**BAS**   **3s**-hurt-be
    'This child is sick.'

b.  *ę́:**dè***      *sân*        *è-khóp-dɔ́:*
    this.**BAS**   child.**BAS**   **3DU**-sick-be
    'These children (DU) are sick.'

c.  *ę́:**gɔ̀***      *są̂:dɔ̀*       *è-khóp-dɔ́:*
    this.**INV**   child.**INV**   **3INV**-hurt-be
    'These children (PL) are sick.'

Class III similarly matches the inverse marking pattern on nouns: both singular and plural take the inverse prefix while dual takes the dual prefix. Compare (3a) and (3c), both of which take an inverse suffix on the noun and an inverse pronominal prefix, being differentiated only by the number suppletive verb stem.[6] (3b), being dual, takes a dual pronominal prefix and the basic form of the noun.

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[3]  Aside from deriving subclasses of classes II and IV, this also has the effect of reclassifying a few nouns that do not take an overt inverse suffix, e.g. *t'áp* 'deer'. These nouns are then solely classed based upon the pattern of pronominal indexation.

[4]  Because of the complexity of the pronominal prefix system, which encodes subject, direct object, and, to a degree, indirect object, only the intransitive system—which only marks subject—will be discussed here.

[5]  It needs to be noted here that the term 'inverse' is being used in two distinct, but related, ways. One usage pertains to the paradigmatic contrast between 'inverse' and 'non-inverse' (i.e. basic number) that serves to distinguish the noun classes. In other words it refers to a pattern that has formal realizations somewhere in the grammar, most notably in the number suffix on nouns which only makes this two way distinction. The other usage pertains to the formal markers of inverse number themselves, whether the suffix on the nouns and modifiers or the pronominal prefix.

[6]  Several verbs in Kiowa-Tanoan languages have suppletive singular versus non-singular stem pairs, as seen in (3-7) and many others throughout this paper. Dual number takes the singular stem

(3)  (adapted from Watkins 1984:89)

    a.  *ę́:gɔ̀   ɔ́:dɔ́   è-k'ɔ́:*
       there  hair.**INV**  **3INV**-be.lying.SG/DU
       'There's a strand of hair lying there.'

    b.  *ɔ́l       ę́:gɔ̀   è̩-k'ɔ́:*
       hair.**BAS**  there  **3D**-be.lying.SG/DU
       'There are two strands of hair lying there.'

    c.  *ɔ́:dɔ́     hóldàp   è-k'úl*
       hair.**INV**  dress.on  **3INV**-be.lying.PL
       'There's some hair on the dress.'

Classes II and IV are different insofar as they are divided into subclasses based upon how these pronominal prefixes are applied. Class II has two subclasses. In both, singular is marked with the inverse prefix and dual is marked with the dual prefix, as expected from the suffix on the noun. The difference lies in the plural. Class IIa takes the plural prefix for indicating plural, whereas class IIb takes the singular prefix. The sentences in (4) illustrate the use of the noun stem *á:* which, as a IIa noun, means 'pole' and, as a IIb noun, means 'tree'.

(4)  (Watkins 1984:86-87)

    a.  (IIa / IIb)
       *á:-dɔ̀    è-cél*
       stick-**INV**  **3INV**-stand.SG/DU
       'A pole/tree is standing there.'

    b.  (IIa / IIb)
       *á:     è̩-cél*
       stick  **3DU**-stand.SG/DU
       'Poles/Trees (2) are standing there.'

    c.  (IIa)
       *á:     gyà-sɔ́l*
       stick  **3PL**-stand.PL
       'Poles (3+) are set up there.'

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with some verbs—as with *cél* 'stand' here—and the plural stem with others. Transitive verbs with stem suppletion reflect the number of the object, not the subject.

    d.  (IIb)

*á:*     **Ø-sɔ́l**

stick   **3s**-stand.PL

'Trees (3+) are standing there.'

Class IV divides into three subclasses based on the pronominal prefixes. But, just as the inverse suffix never occurs on any class IV noun stems, so too does the inverse pronominal prefix never index a class IV argument; only the singular, dual, and plural prefixes are used. Classes IVa and IVb both use the singular prefix for singular and the dual for dual. As with the subclasses of II, the difference is in the marking of the plural. Class IVa marks the plural with the plural prefix and IVb marks the plural with the singular prefix. Class IVc differs from the other two in that only the plural prefix is used, whatever the semantic number is. (5) demonstrates IVa.[7] (6) and (7) show IVb and IVc respectively, using the noun *tó:* which, as a IVb noun, means 'house' and, as a IVc noun, means 'tepee'.

(5)    (adapted from Watkins 1984:90)

    a.  (IVa)

*ę́:dè*     *c'ó:*   *ę́:gɔ̀*  **Ø-cél**

this.**BAS**  rock   there  **3s**-be.sitting.SG/DU

'This rock is sitting there.'

    b.  (IVa)

*ę́:**dè***     *c'ó:*   *ę́:gɔ̀*  **è-cél**

this.**BAS**  rock   there  **3D**-be.sitting.SG/DU

'These rocks (2) are sitting there.'

    c.  (IVa)

*ę́:**dè***     *c'ó:*   *ę́:gɔ̀*  **gyà-sɔ́l**

this.**BAS**  rock   there  **3P**-be.sitting.PL

'These rocks (3+) are sitting there.'

(6)    (Watkins 1984:90-91)

    a.  (IVb)

*tó:*     **Ø-cél**

house  **3s**-stand.SG/DU

'There is a house standing there.'

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[7]  These sentences in (5) are constructed by the author. The only examples given in the literature of this paradigm occur with transitive pronominal prefixes (see Watkins 1984:90), but in the interest of simplicity and clarity, forms with intransitive prefixes are given here.

b.  (IVb)

  *tó:*   *è̩-cél*
  house  **3D**-stand.SG/DU
  'There are houses (DU) standing there.'

c.  (IVb)

  *tó:*   **Ø**-*sɔ́l*
  house  **3S**-stand.PL
  'There are houses (PL) standing there.'

(7)  (Watkins 1984:90-91)

  (IVc)

  *tó:*   **gyà**-*sɔ́l*
  house  **3P**-stand.PL
  'There is a tepee standing there/There are tepees (DU/PL) standing there.'

Table 1, adapted from Watkins (1984:79), summarizes the formal marking of noun classes in Kiowa.

TABLE 1. Kiowa Noun Classes

|  | Singular | | Dual | | Plural | |
|---|---|---|---|---|---|---|
|  | Inv sfx | Index | Inv sfx | Index | Inv sfx | Index |
| Class I |  | Ø- |  | è̩- | -gɔ́ | è- |
| Class IIa | -gɔ́ | è- |  | è̩- |  | gyà- |
| IIb | -gɔ́ | è- |  | è̩- |  | Ø- |
| Class III | -gɔ́ | è- |  | è̩- | -gɔ́ | è- |
| Class IVa |  | è- |  | è̩- |  | gyà- |
| IVb |  | Ø- |  | è̩- |  | Ø- |
| IVc |  | gyà- |  | gyà- |  | gyà- |

To clarify the system in short, the language has a three-way number distinction between singular, dual, and plural. Crosscutting this system is a paradigmatic contrast between 'basic' and 'inverse' numbers, where the specific number semantics of 'basic' and 'inverse' are determined by the noun class to which the relevant noun belongs (e.g. 'inverse' is plural in class I, singular in class II, and singular or plural in class III). These distinctions are realized via a four-way morphological distinction in the pronominal prefixes

between singular, dual, plural, and inverse. The inverse morphological marking is used to realize formally the number that corresponds to the paradigmatic usage of the 'inverse' vs. 'basic' pattern, i.e. the inverse prefix *è-* will mark plural number with a class I noun, singular with a class II noun, and both singular and plural with a class III noun. The other morphological markers—singular, dual, and plural—then serve to realize the singular-dual-plural number distinction in the 'non-inverse' part of the paradigm. For example, since both the singular and dual of class I nouns are paradigmatically 'basic', the language is still able to disambiguate singular versus dual number formally. This complex system—and unfortunately confusing terminology that has accompanied it in the literature—is made no simpler by the fact that there are other semantic categorization patterns also feeding into the noun class distinctions.

Although the semantic basis for the distribution of nouns among the four classes is not entirely predictable, there are some very prevalent patterns. The most obvious feature is that all nouns with animate referents fall under class I. This includes both humans and higher and lower animals, and applies to terms for individuals, occupations, and groups (e.g. tribes). There do not appear to be any exceptions to this rule. Inanimates, on the other hand, are spread out across all four classes with no immediately transparent pattern to their distribution. This distribution is not equal, however. There are relatively few inanimate nouns in class I, these mostly being body parts (8a), objects capable of independent motion (8b), certain prominent objects in nature (8c), and certain objects made by humans that could be construed as instruments (8d), although further analysis is needed for verification of this (data from Watkins 1984).

(8) a. *t'ɔ́:de*  'ear'
    *tá:de*  'eye'
    *tʰén*   'heart'
    *mɔ̀nc'ó*  'fingernail'

  b. *khɔ̂:*   'car'
    *k'ɔ́dál*  'vehicle'

  c. *páy*   'sun'
    *p'ɔ́:*   'moon'

  d. *k'ɔ̂:*   'knife'
    *t'ɔ́:*   'spoon'

Class III is in fact a closed class with no more than four to eight members, all of which are inanimate. Watkins (1984) gives the words in (9) as the comprehensive set.

(9) *álɔ̀:*   'apple; plum'
  *thǫt'ólɔ̰̀:* 'orange'
  *k'ɔ̂n*   'tomato'
  *ɔ́l*    'hair'

Three out of four of these are roundish fruits[8] which share no apparent semantic relation with the fourth member 'hair'.[9]

Classes II and IV each also show patterns to their membership, with the former including "inanimate but tangible objects" and the latter "abstract inanimates" (Watkins 1984:92).[10] The further distinction into subclasses in II and IV appears to be largely based on the actual semantic construal of number. Watkins (1984) illustrates the difference between IIa and IIb—which only differ in the plural—as being a contrast between distributive and collective plural number. With IIa nouns, plural indexation is used to convey a bounded heterogeneous construal of number, a number of discernibly discrete objects. With IIb nouns, though, singular indexation is used to convey a bounded homogeneous construal, a collective of objects acting as a single unit. This is exemplified by (4), repeated here. The stem *á:*, in class IIa means 'pole, stick', but in IIb denotes 'tree' (i.e. a collective of sticks).

(4)  (Watkins 1984:86-87)

    a.  (IIa / IIb)

       *á:-ɖɔ*     *è-cél*

       stick-INV   3INV-stand.SG/DU

       'A pole/tree is standing there.'

    b.  (IIa / IIb)

       *á:*      *è-cél*

       stick   3DU-stand.SG/DU

       'Poles/Trees (2) are standing there.'

    c.  (IIa)

       *á:*      *gyà-sɔ́l*

       stick   3PL-stand.PL

       'Poles (3+) are set up there.'

    d.  (IIb)

       *á:*      *Ø-sɔ́l*

       stick   3S-stand.PL

       'Trees (3+) are standing there.'

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[8]  Wonderly et al. 1954 lists a few more words, also denoting fruits (*sané'e* 'blackberry', *t'áp'alɔgɔ* 'wild cherry', *álɔ:gu'k'ó:* 'lemon; orange', *alɔ:sɔhyé* 'plum').

[9]  Takahashi (1984) tentatively suggests that 'hair' may be the prototype for this class—on the basis of the Kiowa custom of wearing two braids in the hair—with the semantic extension to fruits representing 'things growing out of a main body' (p. 31, 37). Thanks to Hiroto Uchihara for bringing this to my attention.

[10]  Class IV may also include most—if not all—non-count nouns, but no source makes this explicit.

The same contrast obtains between the subclasses of IV, IVb being a collective, and IVc a distributive, plural (Watkins 1984:90-91). (6)-(7), repeated here, illustrate this difference. The form *tó:* means 'house' when a IVb noun, a set of parts viewed as a collective unit, but 'tepee' when IVc, a single unit viewed as distributed multiple parts.

(6)  (Watkins 1984:90-91)

    a.  (IVb)

        *tó:*      ***Ø-*cél**

        house  **3s**-stand.SG/DU

        'There is a house standing there.'

    b.  (IVb)

        *tó:*      ***è-*cél**

        house  **3D**-stand.SG/DU

        'There are houses (DU) standing there.'

    c.  (IVb)

        *tó:*      ***Ø-*sɔ́l**

        house  **3s**-stand.PL

        'There are houses (PL) standing there.'

(7)  (Watkins 1984: 90-91)

        (IVc)

        *tó:*      ***gyà-*sɔ́l**

        house  **3P**-stand.PL

        'There is a tepee standing there/There are tepees (DU/PL) standing there.'

Class IVc always marks its members as plural, nouns such as *kut* 'book', *tó:* 'tepee', and *hóldà* 'dress, shirt' being construed as composed of multiple constituent parts (Merrifield 1959: 270, Watkins 1984:91) no matter how many of the overall units there are.

Despite some early controversy over the relatedness of Kiowa to the other Tanoan languages (cf. Trager & Trager 1959, Whorf & Trager 1937), a glance at the noun class system of Kiowa described here and the following descriptions of the Tanoan languages should leave the reader with no reservations over the connection, even without detailed sound correspondences and formal reconstructions (cf. Hale 1962, 1967; Watkins 1977, 1978, 1982, 1996). Towa, being the most similar to Kiowa in its noun class system, will be described next.

**2.2. TOWA.** Towa (Pueblo of Jemez, New Mexico), like Kiowa, uses a basic-inverse number marking system, the patterns of which analysts have used to divide all nouns into four classes comparable to those in Kiowa. The primary sources for these data are two dissertations (Sprott 1992, Yumitani 1998), which explicitly state the noun classes for several, although still a very limited set of, nouns. Until these two works, Towa remained the most

poorly described of the Pueblo languages. Jemez is one of the Pueblos most closed to linguistic work, but fortunately has a very high rate of transmission to the younger generations. This renders the need for explicit language revitalization efforts and studies by outside researchers a low priority from the official community's perspective.

The Towa inverse suffix is -*š*,[11] and like the inverse in Kiowa, its semantics is dependent upon the noun to which it attaches. Class I nouns use the basic form for singular and the inverse for dual and plural. Class II has the inverse in the singular and dual and the basic form in the plural. Class III is basic for singular and plural and inverse for dual. Class IV nouns never take the inverse suffix. (10) lays out the Towa pattern (data from Yumitani 1998).

(10)        Basic                         Inverse

    I     *ḥị:* 'person' (SG)           *ḥị:míš* 'people' (DU/PL)

    II    *pọ́:* 'roads' (PL)          *pọ́:š* road; roads (DU)

    III   *kʷọ́:* 'tooth' (SG); 'teeth' (PL)    *kʷọ́:š* 'teeth' (DU)

    IV   *p'ậ* 'water'

Notice that the dual in Towa is inverse, the opposite of what is found in Kiowa, which shows the basic number in the dual. Concomitant to this difference, class III is basic in the singular and plural compared to inverse in Kiowa. This comparison will be further discussed in section 3.1.

Although the distribution of the inverse suffix is more predictive for noun class in Towa than it is in Kiowa, the pronominal prefix system again appears to be the best basis for assigning nouns to classes. To illustrate using the intransitive third person prefixes, there are again four formal numbers distinguished: singular (*Ø-*), dual (*il-*), plural (*il-*), and (non-dual) inverse (*e-*). Although the dual always takes the inverse suffix on nouns, it takes the dual prefix in its pronominal indexation. The inverse prefix listed here occurs when the argument marked as inverse is non-dual. The plural prefix is primarily used only with some class II and III nouns, where it contrasts with the use of the singular prefix when there are plural referents. The following sentences demonstrate the noun classes by use of the inverse suffix and pronominal prefixes (examples from Yumitani 1998:100).

Class I:   Basic in the singular with a singular pronominal prefix.
            Inverse suffix on the noun with a dual pronominal prefix in the dual.
            Inverse suffix and pronominal prefix in the plural.

(11) a.  *pậẹ:*   **Ø-*ší***
       deer   **3s**-fall.SG/DU
       'A deer fell off.'

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[11] The language maintains a CV(:) syllable structure and the -*š* is frequently omitted when not utterance-final. Since the suffix does cause phonological changes in the preceding and following syllables, however, this presence of the inverse marker is still preserved (cf. Yumitani 1998:68-81).

b. *pǽ:-š*      *i̜l*-ší
   deer-**INV**   **3D**-fall.SG/DU
   'Deer (2) fell off.'

c. *pǽ:-š*      *e-t̯ʸí*
   deer-**INV**   **3INV**-fall.PL
   'Deer (3+) fell off.'

Class II:  Inverse suffix and pronominal prefix in the singular.
           Inverse suffix and dual pronominal prefix in the dual.
           Basic in the plural with a singular pronominal prefix (but see below for use of
           the plural prefix).

(12) a. *pǫ́:-š*      *e*-ší
        drum-**INV**   **3INV**-fall.SG/DU
        'A drum fell off.'

   b. *pǫ́:-š*      *i̜l*-ší
      drum-**INV**   **3D**-fall.SG/DU
      'Drums (2) fell off.'

   c. *pǫ́:*      **Ø**-*t̯ʸí*
      drum   **3S**-fall.PL
      'Drums (3+) fell off.'

Class III: Basic in the singular with a singular pronominal prefix.
           Inverse suffix in the dual with a dual pronominal prefix.
           Basic in the plural with a singular pronominal prefix (but see below for use of
           the plural prefix).

(13) a. *bélá*   **Ø**-*ší*
        bread   **3S**-fall.SG/DU
        '(A loaf of) bread fell off.'

   b. *bélǽ-š*   *i̜l*-ší
      bread-**INV**   **3D**-fall.SG/DU
      '(Loaves of) bread (2) fell off.'

   c. *bélá*   **Ø**-*t̯ʸí*
      bread   **3S**-fall.PL
      '(Loaves of) bread (3+) fell off.'

Class IV: No inverse marking; singular pronominal prefix.

(14)　*'ǫ̀:'e*　**Ø-***tʸí*
　　　　sugar　**3s-**fall.PL
　　　　'Sugar fell off.'

　　　The difference between the singular and the plural pronominal indexation in the plurals of classes II and III appears to be along similar lines as the difference between classes IIa and b and between IVa and b in Kiowa. However, according to Yumitani (1998: 105-6), it is the plural prefix that denotes a collective reading. He does not explicitly state the reading with the singular prefix, but it is implied that it is distributive. (15) shows the contrast for a class II noun, (16) for a class III noun.

(15)　(Yumitani 1998:105)
　　　a.　*té:hete*　　*Ø-tʸí*
　　　　　shirt　　　**3s-**fall.PL
　　　　　'Shirts (PL) fell off.'

　　　b.　*té:hete*　　***il-***tʸí*
　　　　　shirt　　　**3P-**fall.PL
　　　　　'Shirts (PL) fell off (collectively).'

(16)　(Yumitani 1998:105)
　　　a.　*tʸê:tiba*　　*Ø-tʸí*
　　　　　box　　　　**3s-**fall.PL
　　　　　'Boxes (PL) fell off.'

　　　b.　*tʸê:tiba*　　***il-***tʸí*
　　　　　box　　　　**3P-**fall.PL
　　　　　'Boxes (PL) fell off (collectively).'

　　　Note that these data contrast with the Kiowa data (as in (4), (6) and (7) above) in that the plural rather than the singular is denoting collectivity.[12] Yumitani (1998) also states that a few class I nouns may occur with the plural prefix, his examples being *p'ǽ:* 'moon', *wę̂hœ:* 'pumpkin', and *wǫ̂hǫ* 'star', all inanimates. The inverse may apparently be used instead, but no example is given, leaving it unclear as to when one is used as opposed to the other.

　　　Table 2 summarizes the pattern of the inverse suffix and pronominal prefixes in the noun class system for Towa.

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[12] Given the counter-intuitiveness of this description, this statement should be checked. Unfortunately Yumitani gives only a few examples outside of context, so at present this statement must stand as is.

TABLE 2. Towa Noun Classes

| | Inv Sfx | Index | Inv Sfx | Index | Inv Sfx | Index |
|---|---|---|---|---|---|---|
| Class I | | *Ø-* | *-š* | *i̜l-* | *-š* | *e-* |
| Class II | *-š* | *e-* | *-š* | *i̜l-* | | *Ø-/ïl-* |
| Class III | | *Ø-* | *-š* | *i̜l-* | | *Ø-/ïl-* |
| Class IV | | *Ø-* | | *Ø-* | | *Ø-* |

The semantic basis for noun classes is again not immediately apparent, but for a couple of features. All animates fall under class I along with a handful of inanimates, although far fewer than in Kiowa (e.g. *wǽde'li* 'egg', *p'ǽ:* 'moon', *wéhí* 'skeleton'). Class IV is made up entirely of mass/non-count nouns (e.g. *i̜* 'blood', *wóho'le* 'dough', *si̜:* 'lard') and shows no sub-classification as Kiowa does. All other inanimate nouns are divided more or less equally between classes II and III (neither or which appears to be a closed class) with no obvious semantic criteria to distinguish them (see section 3.4).

While its morphological realization is very different, the system of Tewa discussed in the next section is almost identical to the Towa pattern presented here.

**2.3. TEWA.** Tewa (the Pueblos of Nanbé and Ohkay Owingeh—formerly known as San Juan, Pojoaque, San Ildefonso, Santa Clara, and Tesuque, New Mexico, and Tewa Village, Arizona) is spoken at the largest number of Pueblos of any language in New Mexico and as such has several dialect distinctions. With the exception of the Arizona Tewa dialect, which is fairly divergent and perhaps best treated as a separate, albeit very closely related, language for descriptive purposes, the differences among the Rio Grande Tewa dialects are fairly minimal. Unlike Towa, Tewa is not being widely transmitted to the next generation, although several of the Pueblos have some kind of community-based revitalization or teaching program underway. Since the formal marking of noun class is relatively subtle in the language, a linguistic consultant who works with Tewa in one of these communities needs to be aware of the system in order to produce an accurate grammatical description, dictionary, and/or pedagogical materials.

Among the Tanoan languages, Tewa has the largest amount of lexical material available in print; there is very little mention of noun class. Only three sources (A. Speirs 1974; R. Speirs 1966, 1972) explicitly describe the phenomenon,[13] and these state the noun classes for only an extremely limited set of items. The primary source for this omission seems to lie in the limited contexts in which the noun class system overtly manifests itself. There is (almost) no reflection of it in the pronominal indexation on verbs and very few nouns show any overt number marking. It is only by certain modifiers that the organization of the

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[13] Harrington (1916), Henderson and Harrington (1914), and Robbins, Harrington, and Freire-Marreco (1916) do make reference to the different "genders" in Tewa, but do not go into any details of the grammar.

system can be seen. The inverse suffix is essentially *-n*, but there are a few lexically deter-mined allomorphs. On nouns, it occurs with only a limited number of class I animates and deverbal animate nouns with relativizer *-i'*, but it is still largely productive on adjectives and functional modifiers such as *i'*/*in* 'the' and *wí*/*wên* 'a, some'.

The distribution of number marking appears to be identical to that present in Towa: class I is singular in the basic, dual and plural in the inverse. This can be seen reflected in the number agreement on the adjective and demonstrative in the following sentences ((17)-(19) from Speirs 1972:482).

(17) a. *o'i*    *wî'*    *tsé*    **he:'i**    *na-ke't'ą́*
this.**BAS**    one    dog    big.SG.**BAS**    3s-fall.SG/DU
'This one big dog fell.'

b. *o'i-**n***    *wíye*    *tsé*    **he'ennin**    *da-ke't'ą́*
this-**INV**    two    dog    big.**INV**    3D-all.SG/DU
'These two big dogs fell.'

c. *o'i-**n***    *po:ye*    *tsé*    **he'ennin**    *di-yemu*
this-**INV**    three    dog    big.**INV**    3P-fall.PL
'These three big dogs fell.'

Class II is plural in the basic, and dual and singular in the inverse. The demonstrative and adjective again agree in number (18), as does the numeral 'one', which takes the form *wéhpí:* in the inverse.

(18) a. *o'i-**n***    **wéhpí:**    *te:*    **he:'in**    *na-ke't'ą́*
this-**INV**    one.**INV**    tree    big.**SG.INV**    3INAN-fall.SG/DU
'This one big tree fell.'

b. *o'i-**n***    *wíye*    *te:*    **he'ennin**    *da-ke't'ą́*
this-**INV**    two    tree    big.**INV**    3D-fall.SG/DU
'These two big trees fell.'

c. *o'i*    *po:ye*    *te:*    **he'endi**    *na-yemu*
this.**BAS**    three    tree    big.PL.**BAS**    3INAN-fall.PL
'These three big trees fell.'

Class III is singular and plural in the basic and dual in the inverse, as seen in (19).

(19) a. *o'i*    *wî'*    *k'u:*    **he:'i**    *na-ke't'ą́*
this.**BAS**    one    rock    big.**BAS**    3INAN-fall.SG/DU
'This one big rock fell.'

b. *o'i -n    wíye    k'u:    he'ennin  da-ke't'ą́*
   this-**INV**  two    rock    big.**INV**   3D-fall.SG/DU
   'These two big rocks fell.'

c. *o'i       po:ye  k'u:   **he'endi**    na-yemu*
   this.**BAS**  three  rock   big.PL.**BAS**  3INAN-fall.PL
   'These three big rocks fell.'

Class IV takes no inverse marker. Whatever the number marking otherwise in a clause, a class IV noun like *ą́'i* 'sugar' in the following sentences will take basic number. The noun can be construed as a collective whole, as in (20a), or as individuated units, as in (20b), reflected in the number suppletion of the stem. In neither case does an inverse marker appear.

(20) (Speirs 1974:59)

a. **wí**    *ą́'i    na-k'ó:*
   **INDF.BAS**  sugar  3INAN-be.lying.SG/DU
   'There is some sugar (spilled).'

b. **wí**    *ą́'i    na-kʷ'ǫ́*
   **INDF.BAS**  sugar  3INAN-be.lying.PL
   'There is some sugar (spilled in clumps).'

Table 3, adapted from Speirs (1974:46), summarizes the noun classes using the modifier *wí/wên* 'a, some'.

TABLE 3. Tewa Noun Classes

|           | Singular | Dual | Plural |
|-----------|----------|------|--------|
| Class I   | *wí*     | *wên* | *wên* |
| Class II  | *wên*    | *wên* | *wí*  |
| Class III | *wí*     | *wên* | *wí*  |
| Class IV  | *wí*     | *wí*  | *wí*  |

As in Towa dual is always marked with the inverse (except in class IV where no number distinctions are being made anyway), class I is inverse in the plural, and class II is inverse in the singular. Class III marks both the singular and the plural as basic.

The number of nouns for which class is known is extremely limited; as such it is difficult to determine any semantic basis for the classes and Tewa will not enter much into the comparative discussion in section 3. It is apparent from the little data available that class I is composed primarily—if not almost wholly—of animates. Class IV also appears to consist largely of non-count and abstract nouns (e.g. *p'o:* 'water', *tsonxu:* 'commandment').

This leaves classes II and III to handle most of the inanimate nouns, just as in Towa. Speirs (1974) does arrive at some conclusions about the distribution of nouns in these two classes: 'bulky' objects go in class III (e.g. *k'u:* 'stone', *po:* 'pumpkin', *púwéré* 'chair'); long and flat objects, rooted/attached and long objects, containers, and rooted and bulky objects fall under class II (e.g. *sú* 'arrow', *p'o'k'e:* 'river', *te:* 'tree') (p. 62-63), although it is difficult to determine how pervasive these generalizations really are.

**2.4. NORTHERN AND SOUTHERN TIWA.** Tiwa is perhaps the Tanoan language most familiar to linguists not working in the Southwest, thanks to a sizable body of literature, including Harrington's detailed (1910) grammatical sketch of Taos Tiwa, George Trager's numerous articles on the same dialect (1936, 1946, 1948, 1954, 1960, 1961, among others), and several articles on Isletan Southern Tiwa by Summer Institute of Linguistics fieldworkers and Donald Frantz in the 1970s through 1990 (Allen et al. 1984 and Allen et al. 1990 inter alia). All of this activity should not indicate that the general policies of the Tiwa Pueblos differ significantly from those of the others. Trager had to work with his three main consultants outside of Taos Pueblo and on the condition of maintaining their anonymity because the research did not have community approval. Even though members of a speech community may desire the assistance of an outside linguist against the policies of the tribal government, it is not for the linguist to instigate the research without the support of some element of the community. The present study obviously benefits from Trager's work, but this kind of method is generally frowned upon by today's fieldworker.

Despite the preceding indictment of the methods of some previous researchers, the results of these studies show that the noun class and number systems of the Tiwa languages are strikingly different than the basic-inverse strategies found among the other Kiowa-Tanoan members, but are still reminiscent enough to allow comparison. The Tiwa languages themselves—Northern Tiwa (Pueblos of Picurís[14] and Taos, New Mexico) and Southern Tiwa (Pueblos of Isleta and Sandía, New Mexico; also, formerly Ysleta del Sur, Texas)—differ in many respects in the manifestations of their noun class systems, but on the whole pattern very similarly, at least superficially (as described for Northern Tiwa in F. Trager 1975, G. Trager 1946, 1961, Zaharlick 1975, 1977, and Southern Tiwa in Allen et al. 1990, Leap 1970a, b, among others). As they are the best described varieties, this paper will focus on the Southern Tiwa spoken at Isleta Pueblo and the Northern Tiwa spoken at Taos.

Like in Kiowa and Towa, the noun class division is best analyzed through the pronominal indexation on verbs. These prefixes demonstrate a formal three-way number/class distinction,[15] labeled A, B, C in the Tiwa literature. The noun classes in the languages,

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[14] The Picurís dialect is phonologically divergent enough from the Taos dialect to impede mutual intelligibility. It may be ultimately best, therefore, to treat Taos and Picurís as two separate languages for descriptive purposes. Noun class is one area of the grammars where the languages do seem to differ to a small extent.

[15] There is another indexation class called L which takes a prefix *na-* on the noun stem. This is not reflected as a distinct class in the pronominal prefix paradigm. It is unclear at present how this class interacts with the others, and so it will be set aside for now.

which are labeled I, II, III, are then based upon pair sets of these forms—specifically A-B, B-C, A-C—in which one is singular and one is non-singular. These noun class distinctions are better illustrated by transitive than intransitive pronominal prefixes. The following sentences exemplify this using a constant third singular animate (A) subject while varying the noun class of the direct object. Class I takes A indexation when singular and B indexation when plural, as in (21).

(21)  (adapted from Allen et al. 1984:295)

    a.  *łiawrade*  ***Ø**-səan-mų-ban*
       woman    A:**A**-man-see-PST
       'The woman saw the man.'

    b.  *łiawrade*  ***i**-səan-mų-ban*
       woman    A:**B**-man-see-PST
       'The woman saw the men.'

Class II takes B when singular—note the same prefix in (22a) as in (21b)—and C when plural as in (22b).

(22)  (Allen et al. 1990:327)

    a.  *səanide*    ***i**-kahun-mų-ban*
       man       A:**B**-box-see-PST
       'The man saw the box.'

    b.  *səanide*    ***u**-kahun-mų-ban*
       man       A:**C**-box-see-PST
       'The man saw the boxes.'

Class III nouns are indexed A when singular—compare (23a) and (21a)—and C when plural—compare (23b) and (22b).

(23)  (Allen et al. 1990:327)

    a.  *səanide*    ***Ø**-natufu-mų-ban*
       man       A:**A**-letter-see-PST
       'The man saw the letter.'

    b.  *səanide*    ***u**-natufu-mų-ban*
       man       A:**C**-letter-see-PST
       'The man saw the letters.'

There is also a fourth class of nouns that make no number distinction; these appear to be indexed as C in Northern Tiwa and mostly as A in Southern Tiwa, although there do seem to be some that take either C or B indexation.

Noun class is also reflected, at least in part, on noun stems. In Southern Tiwa this marking is largely limited to class I nouns, with -(*V*)*de* suffixed for singular (A) and -(*ni*)*n* suffixed for non-singular (B),[16] e.g. *sǝan**ide*** 'man', *sǝan**nin*** 'men'; *musa**de*** 'cat', *mus**an*** 'cat'. Taos Northern Tiwa, on the other hand, has an overt suffix on all non-incorporated nouns,[17] reflecting the class parallel to the pronominal indexation. The A suffix is -*na*; the B suffixes are unpredictably -*ną* or -*nemą*;[18] the C suffix is -*ne*.[19] Examples of the noun class suffixes in Taos Northern Tiwa are given in (24) (data from Trager 1946).

| (24) | Singular | Plural | |
|---|---|---|---|
| | *łułi'i**na*** | *łułi'i**nemą*** | 'old man' |
| | *tuculo**na*** | *tuculo**ną*** | 'hummingbird' |
| II | *p'iane**nemą*** | *p'iane**ne*** | 'mountain' |
| | *hǫlu**ną*** | *hǫlu'u**ne*** | 'lung' |
| III | *kwo**na*** | *kwo**ne*** | 'ax' |
| IV | *pha'a**ne*** | | 'fire' |

Tables 4 and 5 present summaries of the (Taos) Northern and (Isleta) Southern Tiwa noun class systems respectively, the pronominal indexation prefixes representing transitive third person singular subject forms with noun class distinctions for the direct object. Of significance for comparison to other Kiowa-Tanoan languages is the fact that the plural indexation of class I is the same as the singular indexation of class II in both Tiwa languages, a pattern in common with the inverse marking in classes I and II of the other languages.

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[16] Some non-class I nouns may apparently take this suffix under some circumstances (cf. Rosen 1990: 699, fn. 16).

[17] Tanoan languages, the Tiwa languages especially, show a very productive noun incorporation process.

[18] Kontak and Kunkel (1987) describe these allomorphs as being phonologically conditioned, although their analysis does not fit all of the data given by Trager (1946). This needs to be checked further.

[19] Picuris Northern Tiwa has -*ne* for singular A, -*mǫ̆* for singular B, and -*nę̆* for plural (B/C).

TABLE 4. Taos Northern Tiwa

|  | Singular | | Dual | | Plural | |
|---|---|---|---|---|---|---|
|  | Class Sfx | Index | Class Sfx | Index | Class Sfx | Index |
| Class I | *-na* | *Ø-* | *-nạ/-nemạ* | *i-* | *-nạ/-nema* | *i-* |
| Class II | *-nạ/-nemạ* | *i-* | *-ne* | *u-* | *-ne* | *u-* |
| Class III | *-na* | *Ø-* | *-ne* | *u-* | *-ne* | *u-* |
| Class IV |  |  |  |  | *-ne* | *u-* |

TABLE 5. Isleta Southern Tiwa

|  | Singular | | Dual | | Plural | |
|---|---|---|---|---|---|---|
|  | Class Sfx | Index | Class Sfx | Index | Class Sfx | Index |
| Class I | *-(V)de* | *Ø-* | *-(ni)n* | *i-* | *-(ni)n* | *i-* |
| Class II |  | *i-* |  | *u-* |  | *u-* |
| Class III |  | *Ø-* |  | *u-* |  | *u-* |
| Class IV |  |  |  |  |  | *Ø-/i-/u-* |

As in all of the other Kiowa-Tanoan languages, class I for both Northern and Southern Tiwa consists of all of the animate nouns and very few inanimate nouns. Class IV, which makes no distinction for number, contains mostly non-count nouns. It is again classes II and III that divide up most nouns with inanimate referents on a seemingly arbitrary basis.

In an attempt to analyze the semantic organization of the Tiwa noun class systems, Trager (1961) and Leap (1970a, b) describe the A, B, C class marking distinction in terms of a purely number construal schema wherein A is used for a 'unit', B is used for a 'set', and C is used for an 'aggregate'. These terms are only roughly defined in the Tiwa literature. Leap (1970a:202) briefly describes units as "occurring singularly as discrete objects", sets as "composed of items in systematic, patterned relationship to each other", and aggregates as "a simultaneous occurrence of several single items, without any necessary relationship or connection." Nouns then appear in one of these classes depending upon their construal in a given context which roughly, in translation, corresponds to an English singular or plural.

While this innovative analysis may not be too inaccurate diachronically, it suffers from being too *post hoc* in a synchronic analysis. There is no justification as to why a given noun is construed in the way that is represented by the indexation classes with which it appears. Also, if the system were purely based on number construal, one would expect more inanimate nouns in class I (i.e., nouns that may be construed as units (A) or sets (B)) and moreover, perhaps nouns that could take any of the three indexation classes, depending upon the semantic/pragmatic context. The classes appear to be very fixed with very blatant

animate-inanimate and count/non-count distinctions, and not subject to any more construal than singular versus non-singular. Although a system akin to the unit-set-aggregate distinction may be at the core of the Tiwa (and, moreover, Kiowa-Tanoan) noun class division, it does not appear to be a synchronically active system and interactions with other semantic factors render such an analysis unwieldy.

**3. COMPARATIVE ANALYSIS.** In attempting to reconstruct what the semantic characteristics of the number/noun-class system of Proto-Kiowa-Tanoan might have been, it is necessary to reconcile the differences in the synchronic daughter languages. In their number-marking strategies, two major systems have been presented: the basic-inverse system of Kiowa, Towa, and Tewa, and the 'overlapping' class system of Northern and Southern Tiwa. Furthermore, the basic-inverse strategies also show a division between the Kiowa system, in which the dual is always basic, and the Tanoan (Towa and Tewa) system, in which the dual is always inverse, with the other numbers showing different strategies around this central fact.[20] This section will discuss the motivations for deciding which of these is more representative of how the proto-system may have patterned before further delving into the deeper semantic basis of that pattern.

**3.1. KIOWA VERSUS TANOAN INVERSE**. A comparison of the Kiowa and Tanoan inverse systems reveals striking similarities but an even more striking difference. The patterns are almost identical but for the status of the dual, it being inverse in every class in Towa and Tewa, but basic in every class in Kiowa. The curiosity comes by the fact that class III receives a corresponding 'reversal of polarity' between the two different systems. These correspondences and differences are even more notable given that the inverse markers in Kiowa, representing them with {-gɔ́}, do not appear to bear any historical relation to the inverse markers in Towa, -*š,* or Tewa, -*n,*[21] and yet both sides of the family have maintained an inverse system, without recourse to a less typologically-marked singular/non-singular system.

The basic similarities between the two systems are apparent and may be taken as reflective of the historical proto-number system: there are four classes; the dual always has the same status—basic or inverse—irrespective of class;[22] there is a class that is basic in the singular and inverse in the plural (class I); there is a class that is basic in the plural and inverse in the singular (class II); there is a class the polarity of which in the singular and plural is the same and is opposite that found in the dual (class III); there is a class that does

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[20] This is not to suggest a historical causal relation between the (re)categorization of dual number and the semantic or formal organization of the noun class systems.

[21] This is based on impression only. Although scholars have made progress in reconstructing word and stem initial consonants for Proto-Kiowa-Tanoan, vowels and morpheme internal and final consonants have not received much attention (Hale 1962, 1967, Watkins 1977, 1978).

[22] Where there is number-marking, at least. Class IV makes no inverse distinction, and in the Tanoan system, does not even reflect number at all.

not reflect the inverse (class IV); and, indexation reflects four morphologically distinct numbers: singular, dual, plural, inverse. The decision lies in whether the historical dual was basic or inverse and what the semantic distribution of nouns was like in the historical system compared to the synchronic ones. This paper takes the Tanoan pattern to be the more conservative one, Kiowa having innovated in its noun class system.

The first point to note in support of this is that although Kiowa has four noun classes, class III is extremely restricted, apparently containing less than half a dozen members. Class III in both branches of the family is marked as having the dual in opposition to the other two numbers; in Kiowa the dual is basic, but its few members—fruits and hair—do not demonstrate any obvious basis for being construed as basically dual.[23] Fruit and hair tend to come in large quantity or in individual units, not in pairs. Furthermore, as Watkins (1984:88-9) points out, the basic form of a class III noun—used with a singular indexation on the verb—may be used for a varietal construal to denote a plural occurrence of different varieties of the same kind of item (i.e. different types of apples, different heads of hair, etc.), a usage that does not match the pattern of inverse marking. In both of the sentences in (25), the class III nouns have no inverse marking, but are not making any reference to dual number.

(25)  (Watkins 1984:88-89)

    a.  *álɔ̀:*          **bâ-***bɔ́:*
       apple.**BAS**    2P:(-2S):**3**S-bring.IMP
       'Bring (2PL) me apples (of different varieties)!'

    b.  *hɔ́ndé*       *ɔ́l*       **bɔ́-***sɔ̰́:mí:*
       what.INDF   hair.**BAS**  (X):2P:3S-interesting
       'What interesting (kinds of) hair you (PL) have.'

Class III in Tanoan, on the other hand, is a large open class in which dual is marked as inverse as opposed to a basic singular and plural. Although a few members of class III do have referents that frequently come in pairs (e.g. Towa *hǽ:* 'arm', *hǫ́:* 'leg', *mậ:tyà* 'thumb', *ḭ̃:* 'shoe', *wậ:te* 'glove'), most tend to appear as units or in quantity (e.g. Towa *pé:* 'heart', *p'ǫ́:* 'road', *gí:č'ɨ̰'nɨ̰* 'wheat', *kʸ'â:* 'rock'), in keeping with the unmarked status of singular and plural and the marked status of dual.

Similar evidence for innovation in the Kiowa system comes from class IV nouns. In Tanoan, this class appears to consist only of non-count mass and abstract nouns, consistent with the absence of inverse marking on them. In Kiowa, however, this class is more heterogeneous, consisting not only of non-count nouns, but also many inanimate count nouns. This latter fact is reflected in the division of class IV into three subclasses based on the pronominal prefixes conveying number differentiation; although there is no inverse form for these nouns, there are still number contrasts for singular, dual, and plural. Going even further, a comparison of Tables 1 and 2 above shows a correlation between Kiowa classes IVa and b and Towa class III; in both languages, dual is marked dual, singular as singular,

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[23]  See fn. 8 above.

and plural as either singular or plural, based upon a collective versus non-collective construal operation. It is only the absence or presence of the inverse that distinguishes these classes across these languages. These facts are suggestive of a merger in Kiowa between the historical class III and IV sets with the loss of the inverse in the former. The opposite could be suggested for Tanoan, that a historical class wherein there was no inverse marking has split into the modern classes III and IV when the dual was reconstrued as inverse, but the homogeneity of the synchronic Tanoan class IV in only consisting of non-count nouns is more suggestive of a semantic-based system, unlike the much more heterogeneous Kiowa class IV.

The final argument for innovation in the Kiowa noun classes to be presented here is based upon the animacy gender distinction. In all of the languages, class I contains all animate nouns without exception plus a few inanimate nouns. The difference between Kiowa and Tanoan is the quantity of inanimate nouns in class I: Kiowa demonstrates a larger ratio of class I inanimates than do the other languages. Aside from several objects made by humans, e.g. *t'áykʰɔ́tʰá:* 'scissors', *k'ɔ̀:* 'knife', *t'ɔ́:* 'spoon', *ɔ̀:kɔ̀sɔ́m* 'mirror, window'—all of which may be construed as instruments—many body parts fall under class I. These include several organs that occur in pairs or singularly (Watkins 1984: 82), e.g. *tá:dè* 'eye', *t'èlbɔ̂:* 'knee', *tʰén* 'heart', *zǫ́:* 'tooth'. The rest occur in class II, e.g. *gú:* 'rib', *ɔ́ltʰǫ́:* 'head', *mɔ̀:k'ɔ́n* 'nose, beak', *ɔ̀nsó:* 'foot'. In Tanoan, on the other hand, all body parts fall under classes II and III, along with the overwhelming majority of inanimate nouns. Although there is semantic motivation for paired and individual body parts appearing in class I in Kiowa—where the singular and dual are basic—the inconsistency in animacy, which is otherwise so salient in the Kiowa-Tanoan languages, is suggestive of a change from an earlier more consistent system. Although this will not be followed up here, it is notable that for all class III body parts in Towa, where there is information for the noun class of the Kiowa correspondent, the Kiowa body part noun is class I. Compare class III Towa *sé:* 'eye', *pé:* 'heart', *kʷǫ́:* 'tooth' to the class I body parts above. This demonstrates a specific area of the language to be explored for the details of the semantic shift.

The above discussion has compared and contrasted the Kiowa and Tanoan (Towa and Tewa) noun class systems and suggests that it is the Tanoan system that has conserved more features of the original Proto-Kiowa-Tanoan noun classes, whereas Kiowa has innovated numerous aspects. The next section will compare the basic-inverse strategy of Kiowa, Towa, and Tewa to the 'overlapping' noun class system of the Tiwa languages.

**3.2. INVERSE VERSUS THE TIWA SYSTEM.** Although Kiowa may be historically the most distantly related of the Kiowa-Tanoan languages, it is the Tiwa languages that display the most unique noun class system of the family. While all of the other languages demonstrate a basic form opposed to an inverse form, the patterns differing for three numbers—singular, dual, and plural—across four noun classes, Northern and Southern Tiwa have three marked forms that pattern differently for two numbers[24]—singular and non-

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[24] Dual number is distinguished in the pronominal prefixes, but it does not appear to play any significant role in determining noun class membership.

singular—across four noun classes. These two different strategies are not too distinct and are easily reminiscent of one another, but the question arises as to which is the historical precedent. It will take a more in-depth study taking into account formal cognates and grammatical reconstruction to be certain, but it appears that Tiwa has been the more innovative in this area and that Proto-Kiowa-Tanoan has a basic-inverse system similar to that found in Kiowa, Towa, and Tewa.

The first piece of evidence for this conclusion stems from the language family tree. In the supposed linguistic history of the family (cf. Davis 1959, Watkins 1977), Kiowa split off first, then Towa, and lastly Tewa and Tiwa split (with subsequent divisions between Northern and Southern Tiwa). Tewa and Tiwa demonstrate the most salient cognates between any of the language branches, perhaps including the form of the 'inverse' marker, which is *-n* [ŋ] in Tewa and *-(ni)n* in Southern Tiwa (interpreting the plural suffix as the historical inverse). While Tiwa has a unique noun class system, Tewa patterns almost identically to the more distantly related Towa, suggesting that it has retained an older grammatical system while the closely related Tiwa has changed.

Another suggestive feature is the number categories that are distinguished. While all of the Kiowa-Tanoan languages have overt marking for singular, dual, and plural in their indexation systems, Tiwa is the only branch that shows no correspondence for dual in its number/noun-class distinction. Since it seems more likely for one language branch to have lost a distinct and typologically-marked (if common) category (Croft 2003, Greenberg 1966), than for three branches to have developed a distinction where none previously existed, the Towa-Tewa pattern again shows the greater potential for conservativeness. The loss of the dual category in nominal morphology in Tiwa may itself have precipitated a reevaluation of how the noun classes pattern, subsequently eliminating the distinction between the basic numbers and the inverse.

A survey of the pronominal prefixes in Northern and Southern Tiwa would undoubtedly shed even more light upon the relationship between the synchronic noun class/number distinctions and the diachronic, but given the complexity of the Kiowa-Tanoan pronominal prefix systems, this is a matter for future study. One fact of overt morphology that does straightforwardly suggest a greater intricacy within the Tiwa system is the presence of *four* noun class suffixes on nouns in Taos Tiwa where only *three* categorial distinctions are being made. While the A class is marked *-na* and unambiguously denotes singular number and the C class is marked *-ne* and unambiguously marks plural number, the B class marker has two lexically determined allomorphs, *-nạ* and *-nemạ*, and denotes singular or plural, depending upon with which noun class—I or II—it is occurring. The usage of these two allomorphs does not appear to be determined phonologically[25] or morphosyntactically, but rather seems to be determined by the stem to which it attaches, whether the morpheme is indicating singular or plural. These facts loosely suggest that there may have formerly been a distinction between *-nạ* and *-nemạ* that has since been lost, namely that one of them may have been the dual marker and one the inverse (assuming that the A and C markers have retained their respective singular and plural functions from the historical system). A four way number distinction—singular, dual, plural, and inverse—is exactly what is found in

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[25] But see fn. 17 above.

Towa and Kiowa pronominal indexation, and, per the Northern Tiwa facts, may have formerly been distinguished on nouns as well. This is at present highly speculative and more reconstruction of sound correspondences and morphology is needed before this hypothesis can be further elaborated, whether affirmatively or negatively.

**3.3. SUMMARY OF KIOWA-TANOAN NOUN-CLASS MORPHOSYNTAX.** The preceding discussion indicates that the Proto-Kiowa-Tanoan number and noun class system may have had the pattern found in Table 6.

TABLE 6. Proto-Kiowa-Tanoan Number and Noun Class Marking

|  | Singular | | Dual | | Plural | |
|---|---|---|---|---|---|---|
|  | N Sfx | Index | N Sfx | Index | N Sfx | Index |
| Class I | (SG) | SG | DU/INV | DU | INV | INV |
| Class II | INV | INV | DU/INV | DU | (PL) | SG/PL |
| Class III | (SG) | SG | DU/INV | DU | (PL) | SG/PL |
| Class IV |  |  |  |  | (PL) | PL |

Those categories in parentheses may or may not have been formally marked. There are three numbers distinguished, with dual consistently being demarcated as dual, whether or not it is formally inverse (since it is consistently distinguished from the inverse in pronominal indexation). Class I marks singular as singular, but considers the plural to be inverse. Class II marks the singular as inverse, and considers the plural to be basic, using singular or plural indexation depending upon the construal of number as either collective or distributive respectively.[26] Class III considers both the singular and the plural to be basic, again marking the plural as either singular or plural depending upon construal. Class IV is limited to non-count nouns, which it formally marks as plural, although construal operations may apply which might modify this.

What the exact semantic nature of the inverse number category may have been remains unresolved. It contrasts with overt categorization for the same numbers that it conveys, so the motivation for its presence is unclear. The collective versus distributive construal is already made in some of the synchronic languages by the singular-plural distinction when the referent is plural, so there is no indication that the inverse might perform or might have performed such a construal function. In part, determining its semantic basis depends upon determining whether the dual is or was truly considered inverse, given that it has its own distinct marking in indexation. It also depends upon determining the semantic basis for the relegation of nouns to the noun classes; in doing so, the similarity between the plural of class I and the singular of class II might be analyzed, and the function of the inverse

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[26] It is unclear whether this feature was part of the Proto-KT system or if it was independently developed in Kiowa and Towa.

revealed to a degree. The following section will discuss what has been found concerning the semantic basis for the categories. However, since there are still open questions about the distribution of nouns across noun classes, the historical semantics of the inverse will remain unresolved for the present.

It must be borne in mind that the inverse system did not necessarily have a transparent semantic basis in Proto-Kiowa-Tanoan.[27] Proto-languages are of course still languages, unattested though they may be, and are just as likely to show arbitrary properties as synchronic languages. Arbitrary as grammars may end up being, however, they usually do not start out that way. Constructions and patterns tend to have an original semantic or formal motivation which is then obscured over time by grammaticalization processes. The questions driving this paper are targeted towards these original motivations, even though they may no longer have been apparent by the time of the immediate ancestor of the modern Kiowa-Tanoan languages. That such a typologically unusual inverse number system is not found in any other language family—including Uto-Aztecan, which some have posited has a connection to Kiowa-Tanoan (Whorf and Trager 1937, Davis 1989)—suggests that the system and the motivations for the system arose after an ancestor of the Kiowa-Tanoan languages had split from other relations. Only further research will be able to determine the possible character of Proto-Kiowa-Tanoan and whether the inverse system had any transparent semantic basis in that language or if it had been lost by this time.

**3.4. GENDER AND NUMBER IN HISTORICAL KIOWA-TANOAN NOUN CLASSES.** Why nouns fall into the classes that they do in each of the languages is not entirely clear. If it were based solely upon fine number differentiations, one would expect more variation in the number marking of a given noun, depending upon the construal necessary in the given context, as discussed at the end of section 2.4. Additionally, there would not be the semantic patterns that are quite prevalent in the languages. The most pervasive of these patterns is the restriction of animate nouns to class I and, moreover, the restriction of class I to animate nouns, with very few exceptions. Even in Kiowa, where more inanimates are classed in I than in the other languages, they still are relatively few in number. This provides strong evidence that the languages are at the very least making an animate-inanimate distinction and that this distinction is reflected in the number marking pattern.[28] The question then arises whether there is a further semantic basis between inanimate nouns in their respective classes, i.e., II, III, and IV.

Class IV nouns, which appear in all languages but Kiowa to consist entirely of inanimate non-count and abstract nouns, are obviously distinguished for their unique number properties, namely that no number distinction tends to be made. This is a class determined solely by number semantics and does not seem to have any interaction with any gender distinctions, outside of the fact that most or all non-count and abstract nouns are inanimate.

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[27]  Thanks to an anonymous reviewer for reminding the author to explicate this point.

[28]  The distinction between animates and inanimates is well attested elsewhere in the languages. See especially Allen, Gardiner, and Frantz (1984), Rosen (1990), and Sadock (1985) for Southern Tiwa; Yumitani (1998) for Towa.

It is in classes II and III where the semantic basis is most unclear. Each of the languages shows a different pattern for these two classes, which otherwise do seem to be comparable, at least among the Tanoan languages. For instance, all trees appear to fall under class II in both Towa and Northern Tiwa (as does *te:* 'tree' in Tewa), while in Northern Tiwa, at least, the fruits and parts of the plants largely seem to be class III. Conversely, in Southern Tiwa, trees appear to fall mostly under class III.[29] Such patterns are present, but not with enough consistency to make any strong statements without a more detailed analysis. Among the body part terms, which all occur in classes II and III in the Tanoan languages, many class II nouns in Taos Tiwa have a semantic correspondence to class III nouns in Towa and many class III nouns correspond to class II, but there are exceptions (data from Trager 1946 and Yumitani 1998).

(26)   <u>Taos</u>            <u>Towa</u>

|            |       |          |       |        |
|------------|-------|----------|-------|--------|
| *xonemą*   | (II)  | *hǽ:*    | (III) | 'arm'  |
| *tsinemą*  | (II)  | *sé:*    | (III) | 'eye'  |
| *phona*    | (III) | *ɸó:lá*  | (II)  | 'hair' |
| *phəyna*   | (III) | *ɸôse*   | (II)  | 'nose' |

As discussed in section 2.3, Speirs (1974) points out a distinction between classes II and III in terms of object shape, which is consistent with the Towa and Taos distinction among (tall, thin) trees and their (usually roundish) parts, but this simple categorization would need to be greatly extended to encompass all inanimate count nouns in the languages.

This discussion has ignored the effects of the innovations in the different synchronic systems in trying to determine the historical basis for the two classes. That the closely related Northern Tiwa and Southern Tiwa should assign nouns of similar semantics (and often cognate forms) to different classes indicates that the diachronic change in the noun class system may have far reaching effects, despite a similar underlying semantic basis that may still be residually present in the languages. By the same token, the historical distinction between classes II and III may have been purely based on number construal, with other semantic patterns arising by virtue of the fact that nouns in the same or similar semantic fields will be construed for number in similar ways.

If the basis for the distinction between classes II and III is number, a return to Table 6 would be fruitful. Classes II and III are only distinct in the singular, whether it is marked as singular or as inverse; dual is consistent between them and plural is largely subject to construal between a collective and distributive reading. The difference appears, therefore, to be determined by the semantics of the inverse. Class III nouns make a simple singular, dual, plural distinction where singular is essentially unmarked, i.e., it is not 'unusual'—assuming a direct meaning form correlation—to construe a class III noun as singular. Class II nouns, on the other hand, may occur regularly as dual or plural, but have to be 'specially' marked if one is to construe them as singular. As stated above, the semantic attributes of

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[29]  Further data are needed to clarify this point.

the 'unusual' and 'special' inverse are unclear at present, but it is appearing more and more that it may be at the heart of the class distinctions.[30]

**4. CONCLUSION.** This paper has compared and contrasted the number and noun class systems of the major branches of the Kiowa-Tanoan language family. It has suggested that the historical pattern from which all of the synchronic systems arise is most similar in organization to that found in Towa and Tewa, but may not have classified the dual as categorically inverse. This study has also confirmed that there was likely at least an animate-inanimate gender distinction and has suggested that the further division of noun classes is determined primarily or wholly by the distinctions in number. More research is necessary in order to more accurately determine the features around which the historical and modern noun class systems are based. This research will especially need to focus on the reflection of noun class and number in all of the pronominal prefix paradigms, and the correlation of noun classes when taking formal cognates—as well as semantic correspondences—into account. Furthermore, the semantics of the inverse morpheme needs to be isolated in both synchronic and diachronic perspective before there can be a clear picture of the Kiowa-Tanoan noun class system.

Without a doubt the input of native speakers of Kiowa-Tanoan languages would be of great assistance in analyzing the synchronic noun class systems in order to reconstruct the ancestral form. In addition to being able to provide the noun classes of lexical items and narratives to illustrate the nouns in context, they could also give insight into their own subjective semantic construal of the nouns in context. Are class III inanimate nouns construed different than class II nouns when it comes to number? On what basis is a newly introduced lexical item assigned to a given class? To these and more questions fieldwork might be able to provide some answers. The restrictions imposed upon outside linguists doing research on languages in the Pueblos and in similar social situations do raise the serious question of how to feasibly undertake this fieldwork without impinging upon the wishes of the native speakers. Assuming speakers even agree to work with the linguist, possibilities include: doing the research without publishing the results (except in any community-internal language reference materials); publishing the metadata and analysis without including any actual language data (or, exemplifying only with language data that is already publicly available, even if the analysis is actually based on unpublished examples); publishing the data with the analysis, but encrypting it, a possibility that has not been actualized in any publications to the present author's knowledge (although see Debenport 2009, in which the language data are present, but obfuscated in the published version, leaving only the English translations visible). The specific approach taken will be at the whim of the individuals and institutions involved, but options do exist.

It must also be remembered that modern-day fieldwork is not just about the linguist's questions, but about the consultants' too. Native speakers have their own goals regarding

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[30] An anonymous reviewer brought up the question of the language contact situation in Proto-Kiowa-Tanoan times and hence, suggesting the possibility of a borrowed system overlying the native system of noun categorization. For purposes of space, this intriguing point cannot be pursued here, but should be kept in mind for future research.

their language and linguistic work and moreover, as the possessors of the language and of the responsibility for its continued use and transmission, have the right to state what kind of work can be done. The outside linguist conceives of his or her research as contributing to the greater knowledge of how a given language—and language in general—functions. In doing fieldwork and working with native speakers, it is however his or her task to put that knowledge to use by sharing it with the people actually speaking the language and making sure their goals are met. Typically these goals revolve around maintaining and revitalizing the language within the community by assisting in the development of language classes and pedagogical materials. This may be accompanied by the caveat that the data involved in such work must be kept confidential, within the community. This may mean that the linguist's own research questions are sidelined or put under restrictions (e.g. unable to publish) in respecting the desires of the community. Ideally, there would be native speakers with the training to do linguistic research on their own languages who would also have the community-internal knowledge and experience of how to manage language data without compromising community ideology. However, there are presently no fully trained linguistic researchers now living known to the author who are native speakers of a Tanoan language.[31] Although the above situations are not unique to the Southwest or the Kiowa-Tanoan language family, this discussion should serve as a poignant reminder of both the realities of actually accomplishing the fieldwork needed to further linguistic research as well as of the responsibilities of the linguist towards the people he or she is researching.

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[31] However, Gus Palmer, Jr., a speaker of Kiowa and a member of that community, is an associate professor at the University of Oklahoma with a focus in linguistic anthropology.

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Logan Sutton
ldsutton@unm.edu