A survey of Nuu-chah-nulth reduplication*

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This paper presents a description of the various forms of reduplication which are attested in the Ahousaht dialect of Nuu-chah-nulth. We expand on the observations of Sapir and Swadesh (1939), who first noted that reduplication in this language is typically associated with a class of "reduplication-triggering" morphemes. Reduplicant shape, as well as vowel length of reduplicant and base, varies according to the choice of the triggering morpheme (cf. Sapir and Swadesh 1939; Rose 1981; Stonham 1990, 1994). In addition to lexically-triggered reduplication, we also discuss two types of reduplication that are not tied to the presence of a triggering morpheme: pluralizing reduplication and emphatic reduplication.

1   Introduction

This paper provides a survey of reduplication in Nuu-chah-nulth (nuučaaṅuɫ), an endangered Southern Wakashan language spoken on the west coast of Vancouver Island, British Columbia.[1] Data presented in this paper are from the Ahousaht (ʕaaḥuusʔatḥ) dialect, one of approximately fourteen dialects in the Nuu-chah-nulth dialect continuum (cf. Rose 1981). This study has benefitted greatly from the work of Sapir and Swadesh (1939), who systematically documented various forms of reduplication in their grammatical description and lexicon of the Tseshaht dialect. Other published work on reduplication in Nuu-chah-nulth includes Rose (1981), who focuses on the Kyuquot dialect, and Stonham (1990, 1994), who includes data from Tseshaht.

Nuu-chah-nulth exhibits a complex system of reduplication, in which the form of reduplication is dependent upon a variety of factors (Sapir and Swadesh 1939; Rose 1981; Stonham 1990, 1994; Wojdak 2002; Kim *in progress*). In this paper, we consider three dimensions which characterise the appearance of the different reduplication types found in Ahousaht Nuu-chah-nulth. The first, discussed in §2, is the context of reduplication. The second aspect, which we present in §3, is the shape of reduplicant. The

[1] Nuu-chah-nulth was formerly referred to as "Nootka", a name which speakers of the language reject.

final aspect, discussed in §4, is the relationship between reduplication and the processes of vowel lengthening and shortening.

The aim of this paper is descriptive. However, in our reference to the reduplication types we rely on a theoretical view of Nuu-chah-nulth reduplication which departs from traditional analyses. While previous accounts of Nuu-chah-nulth reduplication assumed a prefixal analysis of reduplication, we adopt an infixing analysis. The reasons for this theoretical approach are outlined in the following section.

1.1   Reduplicants as prosodic suffixes

In Nuu-chah-nulth reduplication, the initial consonant(s) and vowel of the base are copied. This is illustrated in (1).

(1)   a. waɬwaɬš   "going home once in a while"
        b. ɫuɫuučmup   "sisters" (male speaker)

Previous accounts of Nuu-chah-nulth reduplication have treated the reduplicant as a prefix (eg. Sapir and Swadesh 1939; Rose 1981; Stonham 1990, 1994). However, this analysis has the disadvantage of assigning to reduplicants the curious status of the sole type of prefix found in the language (cf. Stonham 1999). An alternative to this prefixal analysis of reduplication is a suffixal approach (cf. Wojdak 2002). Under this view, the reduplicant is a prosodic suffix (or infix) to the initial syllable of the base. This is shown in (2), in which the reduplicants are indicated by underlining.

(2) *infixation analysis of Nuu-chah-nulth reduplication*

        a.   waɬwaɬš
             waɬ-RED-š
             go.home-RED-SP.IT
             "going home every once in a while"

        b.   ɫuɫuučmup
             ɫuučmup-S-RED
             sister-S-PL
             "sisters" (male speaker)

A suffixal analysis has the advantage of providing a unified account of Nuu-chah-nulth affixation, since it is consistent with the exclusively suffixal morphology of the language (cf. Rose 1981, Stonham 1999). Moreover, the positioning of the reduplicant is analogous to that of the Nuu-chah-nulth plural morpheme –t-, which occurs non-productively as an infix (cf. Sapir and Swadesh 1939, Rose 1981, Stonham 1999). As the examples in (3) illustrate, the plural marker –t- is suffixed to the first syllable in both reduplicative and non-reduplicative contexts (cf. Stonham 1999: 54).

(3) a. ʕitniiχ b. quutquuʔas
      ʕiniiχ-t quuʔas-t-RED
      dog-PL person-PL-PL
      "dogs" "people"

2 Context of reduplication

In this section, we consider the contexts in which reduplication occurs in Nuu-chah-nulth. In §2.1 we discuss lexically-triggered reduplication, and in §2.2, we present pluralizing and emphatic reduplication.

2.1 Lexically-triggered reduplication

As Sapir and Swadesh (1939) first described, reduplication in Nuu-chah-nulth is frequently an obligatory companion to a "reduplication-triggering" morpheme. One such trigger, the morpheme -k̉uk "to resemble", is shown in (4) with examples from Ahousaht.

(4) a. ẏuẏukʷickʼukʔiš
        yukʷic-RED-k̉uk-ʔiš
        younger.sibling-RED-resemble-3SG.IND
        "S/he resembles his/her younger sibling."

    b. mimiɬk̉ukʔicuuš
        miɬ-RED-k̉uk-ʔičuuš
        same-RED-resemble-2PL.IND
        "Both of you look alike."

Failure to reduplicate in such examples leads to ungrammaticality.

(5) a. * ẏukʷic-k̉uk-ʔiš
        younger.sibling-resemble-3SG.IND
        "S/he resembles his/her younger sibling."

    b. * miɬ-k̉uk-ʔicuuš
        same-resemble-2PL.IND
        "Both of you look alike."

The morphemes which trigger reduplication do not form an independently identifiable class distinct from those which do not trigger reduplication. Reduplication-triggering morphemes differ both in terms of form and lexical content. The examples below illustrate the reduplication-triggering morphemes –spinʕaaɬ "to be in competition with" and –(y)a "repetitive iterative aspect".

(6) a. kaakamatqspinʕaaɬʔišʔaɬ
        kamatq-L-RED-spinʕaaɬ-ʔišʔaɬ
        run-L-RED-in.competition.with-3PL.IND
        "They're competing with each other in running."

> b. kiiƛkiiƛa
> kiƛ-L-RED-L-(y)a
> kiƛ-L-RED-L-REP.IT
> "breaking continuously"

We refer the reader to Sapir and Swadesh (1939) for a comprehensive list of reduplication-triggering morphemes.

2.2 Reduplication without a lexical trigger

Not all cases of reduplication are linked to an overt triggering morpheme. Exceptions to lexically-triggered reduplication include pluralizing reduplication and emphatic reduplication. These are discussed below.

2.2.1 Pluralizing reduplication

Although plurals are most regularly formed in Nuu-chah-nulth via the addition of the plural morphemes –minḥ and -ʔaaƚ (Rose 1981), there is also a non-productive process of forming plurals through reduplication. Representative examples are given below.

(7)   a. ẏuẏukʷiqsu   b. mamḥaamiqsu
            ẏukʷiiqsu-S-RED   mamiiqsu-S-RED
            younger.sibling-S-PL   older.sibling-S-PL
            "younger siblings"   "older siblings"

           c. ḥaḥačumsiqsu   d. ḥatḥaakʷaƛ
            ḥačumsiqsu-S-RED   ḥaakʷaaƛ-t-S-RED
            brother-S-PL   girl-PL-S-PL
            "brothers" (female speaker)   "girls"

Note that reduplication of this type is linked to vowel shortening (cf. §4), and it may also occur with the plural infix –t- (cf. §1.1).[2]

2.2.2 Emphatic reduplication

Reduplication is also occasionally used as a means of emphasizing the strength of a reported experience. This usage is shown below.

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[2] Vowel shortening of the base is responsible for the difference in vowel length between base and reduplicant in (7b) and (7d) (cf. §4). In contrast, the variable length of the high front vowel in – i(i)qsu in these examples results due to the characteristic properties of variable length vowels (cf. §4).

(8) a. wiwišʕaqƛitsiš   ḥaḥawa
        wiš-RED-ʕaqƛ-mit-siš   ḥa-RED-waa
        NEG-EMPH-inside-PST-1SG.IND   direct-EMPH-say

        Ryan qʷaqʷacẏakʔitq
        Ryan qʷac-RED-ẏak-ʔitq
        Ryan way-RED-INST-3SG.REL
        "I didn't want to confront Ryan about his behaviour."

    b. waawaaʔiš   Robin ʔen ʔuḥitḥuuk
        waa-RED-ʔiš   Robin ʔen ʔuḥ-mit-ḥuk
        say-EMPH-3.SG.IND   Robin that DEIC-PST-3SG.CONF

        Ryan   kuuẃiƛ   taana
        Ryan   kuuẃiƛ   taana
        Ryan   steal   money
        "Robin said that it was Ryan who stole the money."

Reduplication in these contexts serves to emphasize the strength of the utterance, and is
not obligatory in all speech contexts. Thus, the sentences in (8) are stronger than their
unreduplicated counterparts in (9).

(9) a. wiišʕaqƛitsiš   ḥawaa
        wiišq-ʔaqƛ-mit-siš   ḥa-waa
        NEG-inside-PST-1SG.IND   direct-say

        Ryan qʷaqʷacẏakʔitq
        Ryan qʷac-RED-ẏak-ʔitq
        Ryan way-RED-INST-3SG.REL
        "I didn't want to confront Ryan about his behaviour."

    b. waaʔiš   Robin ʔen ʔuḥitḥuuk
        waa-ʔiš   Robin ʔen ʔuḥ-mit-ḥuk
        say-3.SG.IND   Robin that DEIC-PST-3SG.CONF

        Ryan   kuuẃiƛ   taana
        Ryan   kuuẃiƛ   taana
        Ryan   steal   money
        "Robin said that it was Ryan who stole the money."

3   Reduplicant shape

Nuu-chah-nulth most frequently employs partial reduplication, in which
reduplicants are of the shape CV(V).[3] (See also Rose (1981) for a discussion of "word-

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[3] Vowel length of the reduplicant is dependent on the distinctive vowel length of the root, as well as
processes of vowel lengthening and shortening (cf. §4).

word reduplication" in the Kyuquot dialect). For example, in the CV(V) reduplication triggered by the morpheme –*ataḥ* "attempting to, getting ready to", codas are never copied, even when the base contains a coda. This is shown in (10).

(10) a.   tu<u>tux</u>ʷataḥ
           tuxʷ-RED-ataḥ
           jump-RED-about.to
           "getting ready to jump"

      b.   ha<u>ha</u>ptataḥ
           hapt-RED-ataḥ
           hide-RED-about.to
           "trying to hide"

      c.   mi<u>mi</u>txʷataḥ
           mitx-RED-ataḥ
           turn-RED-about.to
           "trying to turn"

However, the reduplication triggered by two iterative aspect suffixes, -*š* "sporadic iterative" and –*(y)a* "repetitive iterative" demonstrates a different pattern, which permits full syllable reduplication (Rose 1981, Sapir and Swadesh 1939, Kim *in progress*). In this iterative paradigm, the shape of the reduplicant depends on the shape of the root: if the root is monosyllabic, the entire root is copied; if the root is polysyllabic, only a CV(V) reduplicant is copied (Wojdak 2002).[4] This is shown below.

Monosyllabic roots

(11) "repetitive iterative"

      a. ƛiisƛiisa   b. ćuusćuusa
          ƛiis-L-RED-L-(y)a   ćus-L-RED-L-(y)a
          write-L-RED-L-REP.IT   dig-L-RED-L-REP.IT
          "writing"   "digging"

(12) "sporadic iterative"

      a. ʔučqʔučqš   b. ƛiixƛiixš
          ʔučq-RED-š   ƛiix-RED-š
          foggy-RED-SP.IT   chuckle-RED-SP.IT
          "getting foggy over   "chuckling off & on"
          & over again"

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[4] An additional unique characteristic of the iterative paradigm is the appearance of a -ƛ- coda with reduplication of vowel-final monosyllabic roots (Sapir and Swadesh 1939), as in *ṗaa-ƛ-ṗaa-ya* "giving repeatedly" and *ṫi-ƛ-ṫi-č* "throwing something once in a while". See Wilson (1982) and Wojdak (2002) for further discussion.

(13) "repetitive iterative"

    a. waawaaɫyuqʷa   b. w̓aaw̓aasaqa
       waɫyuqʷ-L-RED-L-(y)a   w̓asaq-L-RED-L-(y)a
       bark-L-RED-L-REP.IT   cough-RED-L-REP.IT
        "barking"   "coughing"

(14) "sporadic iterative"

    a. kakamatqš   b. ʔuuʔuuqčapš
       kamatq-RED-š   ʔuuqčap-RED-š
       run-RED-SP.IT   enjoy-RED-SP.IT
       "running every now   "enjoying doing
         & then"   something"

4 Relationship with vowel lengthening and shortening

Nuu-chah-nulth has been noted to have an underlying three-way distinction in vowel length: vowels may be long, short, or variable-length (Sapir and Swadesh 1939; Rose 1981; Stonham 1990, 1994, 1999). In the unmarked case, underlyingly long vowels routinely surface as long, underlyingly short vowels appear as short, and variable-length vowels are long if they are in the first two syllables of the word, but short otherwise (cf. in particular Sapir and Swadesh 1939 and Stonham 1999).[5] However, surface vowel length may also be affected by reduplication.

Sapir and Swadesh (1939) first noted a link between reduplication and the processes of vowel lengthening and shortening (cf. Kim *in progress*). In the following subsections, we describe several of these vowel length patterns. Note that additional examples are also provided in Sapir and Swadesh (1939) and Rose (1981).

4.1 CV(V)<u>CV(V)</u>...reduplication (=[R] in Sapir and Swadesh (1939))

Under the type of reduplication which Sapir and Swadesh (1939) term "normal reduplication", the vowel length of base and reduplicant are identical, and are dependent on the distinctive vowel length of the underlying root. This is exemplified below in Ahousaht Nuu-chah-nulth with the reduplication triggered by the morpheme *–(q)ḥta* "on the foot area". (See also §2.1 for the patterning of *-k̓uk* "to resemble" and §3 for the patterning of *-š* "sporadic iterative".)

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[5] At this stage in our research on Ahousaht, we do not distinguish between long and variable length vowels in our morphemic glosses. Note that *ceteris paribus* both long and variable-length vowels are expected to appear as long when they are in the first two syllables of a word.

(15)   a.   m̓um̓uʕaqḥtinx̌
            m̓uʕa-RED-(q)ḥta-inx̌
            wet-RED-foot-process
            "getting one's foot/feet wet"

       b.   wiwikcasḥta
            wik-RED-cas-(q)ḥta
            NEG-RED-side-foot
            "having one's shoe(s) on the wrong foot"

       c.   taataakinisḥtinx̌
            taakinis-RED-(q)ḥta-inx̌
            socks-RED-foot-process
            "putting on socks"

4.2   CVV<u>CV(V)</u>... reduplication (=[R·] in Sapir and Swadesh (1939))

In this pattern, the initial vowel of the base is obligatorily long: short
vowels are lengthened, while underlyingly long or variable-length vowels
simply remain long. This is illustrated with the reduplication triggered by the
morpheme -ʔiik "someone who is always doing something (habitually)".

(16)   a.   naana<u>ʔatah</u>ʔiik
            naʔataḥ-L-RED-ʔiik
            listen-L-RED-habitual.doer
            "someone who always listens a lot"

       b.   yaa<u>yaq</u>x̌sťaɫʔiik
            yaqx̌-L-RED-sťaɫ-ʔiik
            disliking-L-RED-each.other-habitual.doer
            "someone who always dislikes another"

       c.   yaa<u>yaak</u>ʷaɫʔiik
            yaakʷaɫ-L-RED-ʔiik
            aching.all.over-L-RED-habitual.doer
            "someone who always aches all over"

4.3   CVV<u>CVV</u>... reduplication (=[R· + L] in Sapir and Swadesh (1939))

Reduplicants and bases alike are obligatorily long in this pattern. The
reduplication triggered by –api "too much" exemplifies this class.[6]   (See also §3
for the behaviour of the suffix –(y)a "repetitive iterative".)

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[6] The Ahousaht form –api "too much" corresponds to Tseshaht –aapi "too much, too..",
which is listed in Sapir and Swadesh (1939: 318) as belonging to the CV(V)CV... class.

(17)   a.   ćuućuušuk^wapi

            ćuš-RED-L-uk-api
            new-RED-L-DUR-too.much
            "much too new"

      b.   kuukuumapi

            kuma-RED-L-api
            few-RED-L-too.much
            "much too few"

      c.   qiiqiipi

            qii-RED-api
            long-RED-L-too.much
            "way too long"

4.4   CV<u>CV(V)</u>... reduplication

In this reduplication class, the initial vowel of the base is obligatorily short.[7] This is illustrated below with the reduplication triggered by -ʔaƛuk "to look after" and –yuk^w "to cry for".

(18)   a.   tataʔiƛʔaƛuk

            taʔiƛ-S-RED-ʔaƛuk
            sick-S-RED-look.after
            "looking after someone sick"

      b.   čačapx̌ʔaƛuk

            čapx̌-S-RED-ʔaƛuk
            man-S-RED-look.after
            "looking after a man/husband"

      c.   nunuuk^waƛuk

            nuuk^w-S-RED-ʔaƛuk
            song-S-RED-look.after
            "looking after songs (as a care-taker)"

[7] No Tseshaht morphemes are listed in Sapir and Swadesh (1939) as triggering this form of reduplication. Instead, Sapir and Swadesh describe the Tseshaht equivalent of -ʔaƛuk (-ʔaƛok, -ʔaaƛok "supervising, looking after") as triggering either normal reduplication or vowel lengthening of an unreduplicated stem (Sapir and Swadesh 1939: 320). Similarly, they list the Tseshaht equivalent of –yuk^w "to cry for" (-ayok "angry, crying, being miserable on account of") as triggering CV(V)CVV... type reduplication (Sapir and Swadesh 1939: 317).

(19) a.   ʔaʔaqiyukḥ
             ʔaqi-S-RED-yukʷ-ḥ
             what-S-RED-cry.for-3SG.INT
             "What is s/he crying for?"

      b.   wiwiikayukʔiš
             wik-S-RED-L-(y)a-yukʷ-ʔiš
             NEG-S-RED-L-REP.IT-cry.for-3SG.IND
             "S/he is crying for nothing"

      c.   ʔuʔuušayukʷʼapaλi
             ʔuuš-S-RED-yukʷ-ʔap-ʔaλ-ʔi
             some-S-RED-cry.for-CAUS-NOW-3SG.IMP
             "Make him/her cry for something!"

4.5   CVV<u>CV</u>... reduplication (=[R· + S] in Sapir and Swadesh (1939))

An additional pattern involves an obligatorily long vowel in the base, and an obligatorily short vowel in the reduplicant. Below, we provide examples for two morphemes which trigger reduplication of this type: *-ityak* "fearing" and *-(k)časči* "playing on someone's side in a team".

(20) a.   ʔuuʔutyak
             ʔu-L-RED-S-ityak
             Ø-L-RED-S-fearing
             "hesitating; fearing"

      b.   ʔaaʔaqityakk
             ʔaqi-L-RED-S-ityak-k
             what-L-RED-S-fearing-2SG.QUES
             "What are you afraid of?"

      c.   ʔuuʔušityakʔiš
             ʔuuš-L-RED-S-ityak-ʔiš
              some-L-RED-S-fearing-3SG.IND
             "S/he is afraid of someone"

(21) a.   ʔuuʔukčasči
             ʔu-L-RED-S-(k)časči
             Ø-L-RED-S-playing.on.side.of.someone
             "playing on the side of someone (in a team)"

      b.   wiiwikčasči
             wik-L-RED-S-(k)časči
             NEG-L-RED-S- playing.on.side.of.someone
             "not participating"

c. ʔuuʔuščasči
ʔuuš-L-RED-S-(k)časči
some-L-RED-S-playing.on.side.of.someone
"someone on someone's side (in a team)"

4.6 CV<u>CVV</u>... reduplication

The inverse of the pattern described in §4.5 also occurs. In reduplication of this type, the vowel of the base must be short, while the vowel of the reduplicant must be long.[8] This is shown below with –*sapi* "depending on".

(22) a. ʔuʔuusapi
ʔu-S-RED-L-sapi
∅-S-RED-L-depending.on
"depending on"

b. wiwiiksapiʔiš
wik-S-RED-L-sapi-ʔiš
NEG-S-RED-L-depending.on-3SG.IND
"S/he is depending on nothing"

c. ʔuʔuuššapiʔiš
ʔuuš-S-RED-L-sapi-ʔiš
some-S-RED-L-depending.on-3SG.IND
"S/he is depending on someone"

4.7 Additional patterns

There are additional patterns of vowel lengthening and shortening which are documented in the literature, but which we have yet to find examples of in Ahousaht. Sapir and Swadesh (1939) describe Tseshaht patterns of CV(V)<u>CV</u>... and CV(V)<u>CVV</u>... reduplication, in which the vowels of the reduplicant are obligatorily short, and long, respectively. At present, we have no evidence for these types in modern-day Ahousaht.

There is also one pattern which is unattested both in our fieldwork to date, and in the documentation of Sapir and Swadesh (1939). This is the CV<u>CV</u>... pattern, in which the vowels of both the base and reduplicant are shortened.

The results of our preliminary survey of vowel lengthening and shortening are presented in the following table. Note that it is not known at present whether the unattested forms in the table result from a systematic

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[8] This reduplication class is not described in Sapir and Swadesh (1939). The Tseshaht morpheme –*sapi* "having...as backing, support" is listed as triggering CV(V)CVV... reduplication (Sapir and Swadesh 1939: 332).

Ahousaht pattern, or simply a gap in our current knowledge. This issue is to be resolved through future fieldwork.

(23) *Patterns of vowel lengthening and shortening in Ahousaht reduplication*

	UNAFFECTED BASE	LENGTHENING OF BASE	SHORTENING OF BASE
UNAFFECTED REDUPLICANT	CV(V)<u>CV(V)</u>... eg. *−(q)ḥta* "on the foot"	CVV<u>CV(V)</u>... eg. *−ʔiik* "habitual doer"	CV<u>CV(V)</u>... eg. *−ʔaḥuk* "to look after"
LENGTHENING OF REDUPLICANT	CV(V)<u>CVV</u>... *(unattested to date)*	CVV<u>CVV</u>... eg. *−api* "too much"	CV<u>CVV</u>... eg. *−sapi* "depending on"
SHORTENING OF REDUPLICANT	CV(V)<u>CV</u>... *(unattested to date)*	CVV<u>CV</u>... eg. *−ityak* "fearing"	CV<u>CV</u>... *(unattested to date)*

5   Conclusion

In summary, reduplication in Ahousaht Nuu-chah-nulth has been shown to vary in three basic dimensions: the context of reduplication, the availability of copied codas, and the influences of processes affecting vowel length. With respect to the context of reduplication, we have demonstrated that in Ahousaht, just as in Tseshath (Sapir and Swadesh 1939) and Kyuquot (1981), reduplication may be lexically triggered. It may also occur in the context of pluralization or emphasis. With respect to the completeness of copying, Ahousaht makes use of both partial and full syllable reduplication (cf. Sapir and Swadesh 1939; Rose 1981; Stonham 1990, 1994, 1999). Finally, we have also provided exemplification of six relationships between reduplication and vowel length (cf. Sapir and Swadesh 1939).

Appendix A: Abbreviations

CAUS	causative	PST	past tense
CONF	confirmative	QUES	interrogative mood
DEIC	deictic	RED	reduplication
DUR	durative	REL	relative mood
EMPH	emphasis	REP	repetitive
IND	indicative	S	vowel shortening
INST	instrumental	SG	singular
IT	iterative	SP	sporadic
L	vowel lengthening	1	first person
NEG	negative	2	second person
NOW	temporal	3	third person
PL	plural	( )	optionality

Appendix B: IPA equivalents of the Nuu-chah-nulth orthography

Nuu-chah-nulth	*IPA*
c	ts
c̓	ts'
š	ʃ
č	tʃ
č̓	tʃ'
ƛ	tɬ
ƛ̓	tɬ'
ł	ɬ
x̣	χ
x̣ʷ	χʷ
ʕ	ʔˤ
ḥ	ħ
y	j
y̓	j'

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