

UDC 811.163.42 '367.625:621.39] =111  
Original scientific paper  
Received on 05.11. 2008.  
Accepted for publication 19.11. 2008.

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## **Communication technologies and their influence on language: Reshuffling tenses in Croatian SMS text messaging<sup>1</sup>**

SMS text messaging has become one of the most dominant means of communication in Croatia. With respect to their linguistic features SMS text messages have become a language variety in their own right, exhibiting specific regularities in different aspects of language use. We investigate the use of tenses in Croatian SMS text messages in comparison to standard written Croatian. The results show a different distribution or reshuffling of past tenses, with a reappearance of tenses considered to be obsolete. We also look into the reasons that triggered off these changes as well as their impact on the Croatian tense system.

**Key words:** communication technologies; tenses; SMS text messaging; aorist; imperfect.

### **1. Introduction**

We are witnessing a growing awareness that a new breed of communication is evolving, communication in the various varieties found on the Internet, as well as in SMS text messaging. It is a recognized fact that the emergence and spread of new communication technologies is producing far-reaching effects not only on important aspects of communication, but also on language and languages. During the last decade more and more attention has been paid to different linguistic and communicative phenomena, primarily found on the Internet. A lot of

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<sup>1</sup> I dedicate this article to my life-long friend and colleague Dubravko Kučanda in special remembrance to our first joint attempts at dealing with the complexity of Croatian syntax.  
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this research is still in its early phases and has mostly been focused on the new emerging ‘varieties’ found on the Internet, more specifically the language of e-mail, the language of chat groups and the language of the Web, as is evident in David Crystal’s book *Language and the Internet* (2001). However, the changes one sees in the communication technologies come about rapidly and can very quickly become a major influence from the linguistic, communicative, psychological and pragmatic viewpoints. Thus Crystal in the second edition of his book (2006) includes a new chapter entitled *New varieties* and discusses the main characteristics of *blogging* and *instant messaging*. The analysis Crystal (2001, 2006) provides shows that ‘new’ linguistic phenomena found on the Internet very often escape traditional linguistic notions and categories, and Crystal quite rightly stresses that his analyses are at best “...a first approximation.” (Crystal 2001: 6).

## 2. SMS text messages

Apart from the varieties found on the Internet, interest in SMS text messages has also been growing steadily during the last decade. However, it has primarily been focused on issues such as vocabulary, abbreviations, emoticons, as well as non-grammaticality (see, for example, Harper et al. 2005), and the often voiced fear of the negative influences SMS text messaging will have on languages. Less attention has been paid to systematic differences that one finds in the grammatical structures in SMS text messages in comparison with grammatical structures found in traditional written language. The aim of this paper is to show how tenses in Croatian SMS text messages appear as grammatical structures of a specific kind, when compared to the standard use of tenses in written Croatian. Our claim is that the changes that appear in what we call the reshuffling of tenses in SMS text messages are the result of limitations of the communication technology itself as well as pragmatic factors determining the type of communication that SMS implies.

## 3. SMS text messages in Croatian

The use of personal computers and mobile phones has become an integral part of everyday living and communication in the modern world. However, when one views different countries (that is languages) actual usage of communication technologies can differ. Thus in Croatia the usage of mobile phones and with them SMS text messages has become one of the most dominant means of communication that far exceeds the various forms of communication found on the

Internet. More specifically, the latest statistics for Croatia show that in 2006 there were 100.57 mobile phones per 100 inhabitants, or in other words that three mobile operators serviced 4,464,400 users of mobile phones in relation to the same number of inhabitants that Croatia has at the moment.

Especially impressive is the number of SMS messages exchanged between mobile phone users in 2006 in Croatia, which total 2.5 billion messages for all three official mobile phone operators.<sup>2</sup> The above data show how extremely widespread the use of mobile phones in Croatia is, indicating that we are dealing with a dominant means of communication. Very indicative is the fact that Croatian mobile phone users send over 70 messages per month, while the European average is 25 messages per month.

As a point in contrast, official statistics show that 56 percent of Croatian households have a personal computer, while 36 percent have access to the Internet.<sup>3</sup> Thus extensive usage of SMS text messages in Croatia is linked to the fact that the Internet, or more specifically e-mail is by far less used in Croatia than in other European countries, which may be seen as a reflection of economic growth. Mobile phones are by far cheaper than personal computers and if we add to this that SMS text messaging is cheaper than phone calls made from either mobile or fixed phones, one comes to at least one of the major reasons why SMS text messaging is so dominant in Croatia.

All the above places SMS text messaging at the top of the list within the realm of communication technologies in Croatia and this reason triggered off our interest in the language of SMS text messages, which even when superficially viewed showed interesting linguistic phenomena.

#### 4. The corpus

Intensive work on the corpus of Croatian SMS text messages began in 2000. To date we have collected over 6000 'text message dialogues' encompassing mobile phone users from the ages of 12 to 65 years.<sup>4</sup> As far as gender is concerned,

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<sup>2</sup> The data is obtained from the Central Bureau of Statistics of the Republic of Croatia.

<sup>3</sup> Data applies to 2006.

<sup>4</sup> We would like to thank our third year students at the Department of English, Faculty of Philosophy, University of Zagreb, too numerous to thank individually, who have with great enthusiasm collected over the years a substantial part of the above mentioned corpus. We also thank many individual contributors, that is family and friends who have also helped us in collecting the data.

our corpus includes more female than male mobile phone users in an approximate ratio of 60 percent to 40 percent, respectively. Level of education covers the range from teenagers attending primary school and high school to university professors. Messages in the corpus were sent and received by a very representative number of different professions, ranging from lawyers and doctors to housewives, as well as plumbers and other vocations of different kinds. However, the above parameters did not prove to be relevant for the ensuing analysis since the tenses analyzed appeared in SMS text messages regardless of sex, profession and age.

## 5. The analysis

**5.1.** Even when one skims through the 6,000 Croatian SMS ‘text message dialogues,’ one is confronted with a number of features which mark SMS text messages as a new variety within the realm of communication technologies. Numerous linguistic novelties that defy traditional definitions and usages appear at all levels of traditional linguistic analyses as well as on the pragmatic level. This multitude of phenomena can be roughly divided into the *universal* characteristics of the variety, regardless of whether we are dealing with English, Croatian or other languages, and those which belong to what we may call *language specific* features.

A universal feature that apparently appears in the different corpora of SMS text messages that we have seen is *brevity* which results in various *shorthand forms*, whose usage and meaning often depart from the standard usages in various languages. One of the considerations one has to keep in mind constantly when dealing with SMS text messages are the limitations that this communication technology imposes on linguistic and communicative possibilities. Namely, the SMS is constricted by limitations of message length imposed by the ‘software’ of the technology itself, resulting in limited message length which in average covers 160 characters. The other limitation lies with the sender of the message in the sense that one has to *write* what for the time being may be called a *spoken message*.<sup>5</sup> One could say that this can be seen as an attempt of adapting the speed of speaking to the speed of writing.

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<sup>5</sup> The scope of this paper does not allow for a detailed discussion of the conglomeration of what we traditionally call speech and writing that we often encounter in quite a few of the communication technologies, not only in SMS text messaging, but also on the Internet. For a detailed discussion of the relationship between speech and writing in various varieties found on the Internet see Crystal (2001: 24-48), who claims that we are faced with emergent registers that only partially rely on traditional notions.

**5.2.** It is specifically the notions of *brevity* and *shorthand forms* which have exerted a strong influence on many of the features we find in SMS text messages, ranging from ellipticality of distinct kinds, acronyms specific to the medium, shortening of various grammatical forms, etc. It is specifically these notions that have triggered off a distinct change in tense usage in Croatian, usage that of course should be classified as language specific. This phenomenon has been dealt with in an earlier paper (Žic Fuchs 2002-2003) in which the appearance of the *aorist* is discussed, a tense considered to be archaic both from the point of view of Croatian grammars and from the point of view of present day usage in written texts as well as in oral communication. The analysis presented in that paper was based on a corpus of 800 text messages and provided enough proof for the reappearance of the *aorist* in Croatian, used as a generic marker of the past tense. However, the far more representative present corpus of 6000 Croatian SMS text message dialogues offers insights into the whole system of tenses, pertaining to the past, the present and the future. More specifically, the larger present day corpus is by far more balanced in the sense of age, profession, sex etc.

**5.3.** Another very important feature that has to be taken into account when dealing with Croatian SMS text messages is the dialectal diversity found in Croatia. Traditionally, the Croatian language is classified into three major dialects – Štokavian, Čakavian and Kajkavian – the names of the dialects being based on the forms of the interrogative-relative *what*, that is, *što*, *ča* and *kaj* respectively. Standard Croatian is based on the Štokavian dialect, but should not be fully equated with it since it has undergone its own specific development during the last couple of centuries. For a dialectal distribution in Croatia see Figure 1 below.

It is very important to stress that all three dialectal variants and their urban varieties are represented in the 6,000 Croatian SMS text message corpus. This fact is extremely important because analysis of the corpus shows a high degree of interrelatedness between various dialectal forms, very much dictated by *brevity* resulting in interesting language specific features of the messages themselves. Even a brief overview of the corpus provides insight into a phenomenon not found either in the written medium or in the spoken, and that is the intermeshing of various grammatical dialectal forms as well as some specific vocabulary items. The following example is an illustration how the dialectal variants can come together in SMS text messages.

(1) A: *Di si*, mali? Kaj radis? Stalno mislim na tebe... \*PUSICA\*<sup>6</sup>

B: doma sam, a *di bi* bila? radim homework za sve živo...

(A: *Where are you, honey? What are you doing? Thinking of you constantly... \*KISS\**

B: *i'm home, where would I be? Doing homework for everything...*)

[A - female student, 21 years old, B – male student, 21 years old, both from Čakovec]



Figure 1. Geographical distribution of Croatian dialects

The above example shows completely different dialectal forms appearing side by side: *Di si* and *di bi* (*Where are you, Where would I*) are typical forms of the čakavian dialect, however in this case found in a kajkavian SMS text message dialogue. The fact that we are dealing with kajkavian is signalled through the

<sup>6</sup> Interesting and at times very unusual forms, such as the above example with \*KISS\*, of phatic communion as well as features related to the Gricean maxims for Croatian SMS text messages are discussed in Žic Fuchs and Broz (2004).

syntax, vocabulary and primarily with the interrogative *kaj*, which is a salient feature of the dialect. The reason why two young students from the city of Čakovec, a city located in the middle of the kajkavian dialectal area, would use čakavian forms is very simple. The forms *Di si* (*Where are you?*) and *di bi* (*Where would I?*) and can be seen as *shorthand forms* of the expected forms ‘Gdje si’ and ‘Gdje bi. In fact, *Di si* (*Where are you?*) appears extremely frequently throughout the corpus regardless as to which dialect the text message is actually written in, thus we find it both in kajkavian and štokavian SMS text messages.

5.4. The analysis of the *aorist* in the above mentioned paper (Žic Fuchs 2002-2003) does not stress two other important features of the appearance of the *aorist* in SMS text messages, features which also link it to the universal factor of *brevity*. Just like in the above discussed example, the Croatian *aorist* appears in kajkavian SMS text messages as a *shorthand form* indicating the past. However, in order to understand more fully how interesting this phenomenon is it must be stated that the kajkavian dialect does not know either the *aorist* or the *imperfective* tense.<sup>7</sup> Thus we have examples such as the following.

- (2) Pa kaj si radila u tramvaju u 20 do 8? ja tek sad *progledah*  
AORIST – ‘to open  
one’s eyes’,  
‘to awake’  
(What were you doing in a tram 20 to 8? i just *opened my eyes*)  
[male professional, 40 years old]

In examples such as the above, whether they be in kajkavian or štokavian or čakavian, the present day usage, either of written or spoken language would use the Croatian *perfect* tense – *progledao sam* instead of *progledah* in (2), which can roughly be equated to the English *simple past*. Thus the main factor that triggers off the appearance of the *aorist* is shortness of its form in comparison to the Croatian *perfect*, as can be seen from the following example:

- (3) a. *Vidjeh* te pred faksom.  
AORIST – ‘to see’  
(I *saw* you in front of the faculty building)  
[female professor, 50 years old]

<sup>7</sup> The *aorist* and the *imperfect* disappeared from the kajkavian dialect in the 19th century. Since then, they do not appear in any of the spoken variants of the kajkavian dialect nor do they appear in kajkavian written texts.

The full sentence in the Croatian standard, which automatically implies the use of the Croatian *perfect* tense, would be as follows:

- (3) b. *Vidjela sam* te pred fakultetom.  
PERFECT – ‘to see’

The second relevant feature that pertains to the use of the *aorist* in Croatian SMS text messages is that it appears in the first person singular in 95 percent of all examples. The main reason for this lies in the fact that the ending for the first person singular of the *aorist* *-ah* is the shortest of all endings of the *aorist*, and at the same time *-ah* signals the past tense very effectively, that is other endings for the *aorist* are less distinctive and coincide with possible endings of other tenses in Croatian.<sup>8</sup>

**5.5.** The analysis of the *aorist* found in Croatian SMS text messages provides interesting insights into the relationship of grammar and the technology itself, however deeper insights into these intricacies can be gained through an overall analysis of the tenses used in SMS text messages, especially when compared with tense usage in a written text corpus.

According to grammars of the Croatian language (for example Barić et al. 1995, Katičić 1986, Silić 1997) the following tenses are found in Croatian: the *present tense* denoting the present, the *perfect*, the *aorist*, the *imperfective*, and the *pluperfect* denoting various aspects of the past and two future tenses called *Future I* and *Future II*. Apart from the already mentioned, Croatian also has the *imperative* and two conditionals as finite forms of the verb.

As far as the past tenses are concerned, the most frequent and the most dominant tense in contemporary Croatian is the Croatian *perfect*. The *pluperfect* appears quite rarely, due to its specific semantics, since it denotes an action which has occurred before some other past action. Both the *aorist* and the *imperfect*, as already mentioned, are according to Croatian grammars found rarely and most of them consider these two tenses to be obsolete. Katičić (1986: 62), for instance, claims that they do not as a rule appear even in Croatian contemporary

<sup>8</sup> Apart from the above claims for the usage of the first person singular *aorist*, which are of a grammatical nature, it should be stressed that the first person in general is more present in SMS text messages, due to the basic reference within the context of situation. For instance, if we compare the relative frequencies of the first person singular Croatian perfect tense in the SMS corpus with the first person singular of the Croatian perfect found in a sample from the Croatian National Corpus (based mainly on newspaper articles), we get a ratio of 0,507 (140 examples for the SMS corpus) compared to only 0.002 (1 example in the Croatian National Corpus sample).

prose.<sup>9</sup> The other above mentioned tenses, namely the present and the two future tenses appear regularly both in spoken and written Croatian.

However, a comparison between frequency of usage of Croatian tenses based on the Croatian SMS text message corpus and the Croatian National Corpus (CNC)<sup>10</sup> shows interesting differences. The ensuing analysis of the distribution of tenses was performed on representative samples containing 1487 finite verb forms from the SMS corpus, and 1327 finite verb forms from the morphologically tagged part of the CNC. The following table represents frequency counts of Croatian tenses in both the SMS corpus and the CNC and shows that the tense distribution between the two corpora is significantly different statistically ( $\chi^2 = 266$ ,  $df = 5$ ,  $p < 0.001$ ).

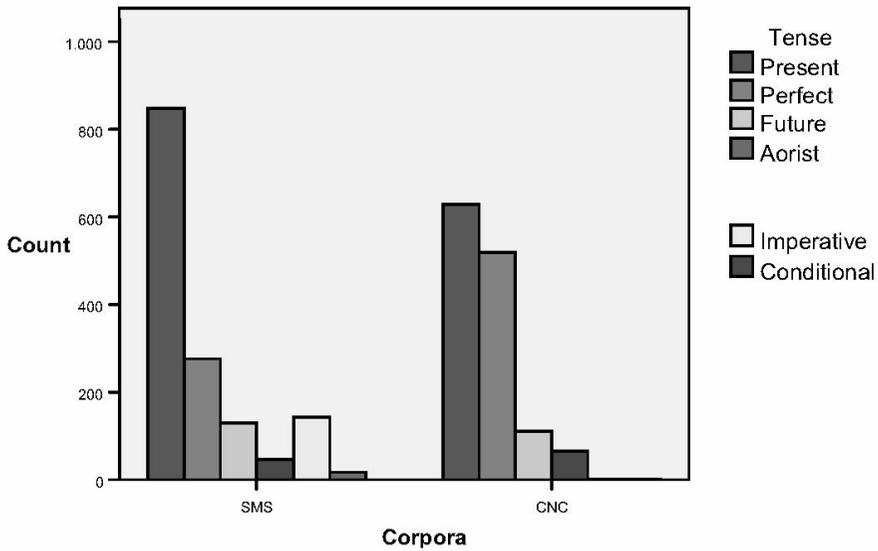
	PRESENT	PERFECT	AORIST	FUTURE I	FUTURE II	CONDITIONAL	IMPERATIVE	TOTAL
SMS	847	276	27	129	19	46	143	1487
CNC	628	518	1	111	1	66	2	1327

Table 1 Frequency counts of finite verb forms

The data from the table can be presented graphically in the following way.

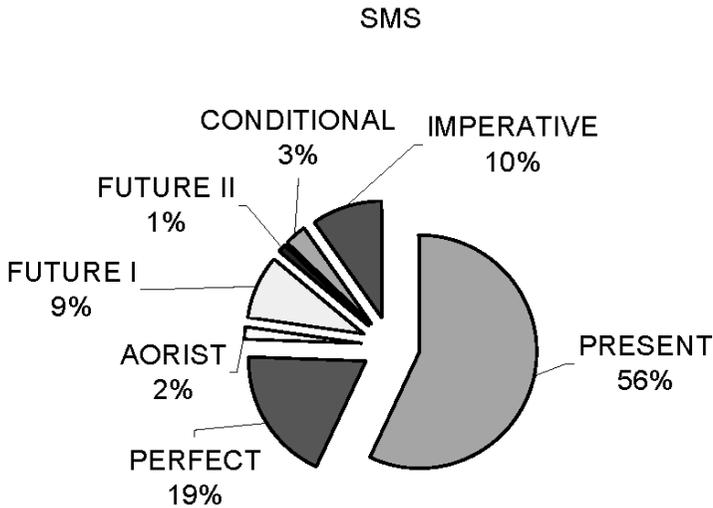
<sup>9</sup> In order not to misinterpret Katičić's claims (1986), it should be stated that he also claims that the *aorist* and the *imperfect* are still a part of the Croatian tense system, and that speakers still recognize them as full-fledged tenses of the Croatian language, regardless of the very low frequency of use. The analysis of the *aorist* so far confirms that the *aorist* is still very much alive in Croatian and that due to the impact of communication technologies it has undergone a kind of renaissance.

<sup>10</sup> For the Croatian National Corpus see [www.hnk.ffzg.hr](http://www.hnk.ffzg.hr)

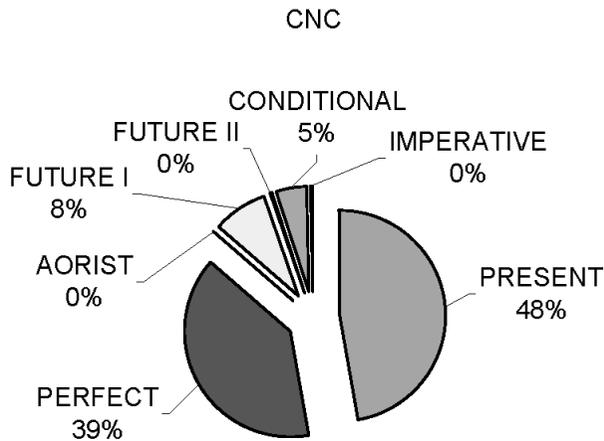


Picture 1. Distribution of tenses in both corpora (frequency counts)

A percentage count gives the following graphical distribution.



Picture 2. Distribution of tenses in the SMS corpus (percentages)



Picture 3. Distribution of tenses in the Croatian National Corpus (percentages)

The above table and charts, or more precisely the frequency counts of the Croatian tenses show marked differences with regard to the Croatian *perfect*, especially if viewed together with the *aorist*, the *present* and the *imperative*. More specifically, the past is expressed by both the Croatian *perfect* and the *aorist*<sup>11</sup> in the SMS corpus, which shows a marked contrast when compared to the CNC, in which only one instance of the *aorist* was found. A substantially larger number of usages of the Croatian *perfect* is evidenced, which is in accordance with present day usage of the *perfect* tense in Croatian. This implies that the SMS technology and all the above mentioned reasons that trigger off brevity in SMS text messages have resulted in a different distribution or reshuffling of possible past tenses in Croatian. This analysis also shows that the *aorist* is still very much a part of the Croatian system of tenses and what is more, that it has started to appear in e-mail messages, blogs, and other varieties found on the Internet.

**5.6.** Two other frequency differences between tense usage should also be stressed. Firstly, the substantial difference between usage of the present in the SMS corpus and the CNC can be seen as a reflection of the discourse nature of the texts that comprise either corpus. In the case of the CNC we are dealing with newspaper texts that naturally show a lesser percentage of the usage of the pre-

<sup>11</sup> Detailed analysis of the use of the *aorist* in the SMS corpus shows that the *aorist* can have the following meanings: 1. denotes actions which happened momentarily in the proximal past, 2. denotes actions which happened momentarily in the non-proximal past, and 3. denotes actions that are undefinable according to the proximal/non-proximal parameter, that is are used 'generically.'

sent, while the higher numerical values for the SMS corpus are to be expected since the pragmatic information of the messages is to a high degree embedded in the present. Thus this difference reflects context of situation factors, which in turn reflect textual/discourse differences inherent in the usage of the present in the two corpora.

The marked difference in the frequency count of the *imperative* (143 in the SMS corpus, 2 in the CNC) can also be seen as a reflection of the discourse nature of the texts, but also of the feature of brevity in the SMS text messages. Namely, the high frequency of the imperative in the SMS corpus results from the different discourse structure very much akin to spoken language dialogues in which the imperative is found more frequently than in written texts. However, a detailed analysis of the usage of the imperative in the SMS corpus also indicates that it is frequently used as a *shorthand form* in order to save space and time.

## 6. Conclusion

The above analysis of Croatian tenses in SMS text messages shows differences in the usage of the tenses, and what is more the reappearance of tenses which have more or less become obsolete in spoken or written language. The two basic reasons why certain forms reappear but with different meanings than described in standard grammars of Croatian is on one hand the influence of the communication technology itself, and on the other the discourse/pragmatic influence that this specific variety is determined by.

SMS text messages, just like all the varieties we find on the Internet show their own specific regularities which in turn can be seen as proof for giving them the status of varieties within the realm of communication technologies. In our opinion these varieties exist and will develop each within its own framework. Just as people shift without any problem from one spoken context to another, or from one written context to another, thus it seems that they 'acquire' and 'use' the communicative and grammatical rules which determine each specific variety. The often voiced fears that the use of various communicative technologies will endanger languages does not seem feasible to us, and we think that speakers of different languages are today simply confronted with new mediums of communication that can imply different usages of various grammatical entities as well as different usages of different vocabulary.

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### **KOMUNIKACIJSKE TEHNOLOGIJE I NJIHOV UTJECAJ NA JEZIK: “PRESLAGIVANJE” GLAGOLSKIH VREMENA U SMS PORUKAMA NA HRVATSKOME JEZIKU**

SMS poruke postale su jednim od najdominantnijih sredstava komuniciranja u Hrvatskoj. U smislu postojanja vlastitih jezičnih karakteristika SMS poruke postale su zaseban jezični ‘varijetet’ sa specifičnim pravilnostima u različitim vidovima jezične uporabe. U radu se istražuje uporaba glagolskih vremena u hrvatskim SMS-tekstualnim porukama te se uspoređuje s uporabom glagolskih vremena u standardnom pisanom hrvatskom jeziku. Rezultati upućuju na različitu distribuciju, odnosno “preslagivanje” prošlih vremena, uz

ponovno pojavljivanje glagolskih vremena koja se u mnogim gramatikama označavaju kao arhaična. Rad se također osvrće na uzroke takvih promjena, kao i na njihov utjecaj na sustav glagolskih vremena u hrvatskome.

**Ključne riječi:** komunikacijske tehnologije; glagolska vremena; SMS-poruke; aorist; imperfekt.