

# Re: Phonemes

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*Source:* <http://sci.tech--archive.net/Archive/sci.lang/2005-06/msg00798.html>

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- *From:* "John Atkinson" <[johnacko@xxxxxxxxxxxxx](mailto:johnacko@xxxxxxxxxxxxx)>
  - *Date:* Sat, 18 Jun 2005 11:54:39 GMT
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"Ruud Harmsen" <[realemailseesite13@xxxxxxxxxxxxxxxxxxxxx](mailto:realemailseesite13@xxxxxxxxxxxxxxxxxxxxx)> wrote in message [news:6v96b11cqakifa33nauj1gid3vif4k75na@xxxxxxxxxxxxx](mailto:news:6v96b11cqakifa33nauj1gid3vif4k75na@xxxxxxxxxxxxx)  
> Fri, 17 Jun 2005 18:42:55 GMT: "Peter T. Daniels"  
> <[grammatim@xxxxxxxxxxxxxxxxxxxxx](mailto:grammatim@xxxxxxxxxxxxxxxxxxxxx)>: in sci.lang:  
>  
> > David Wright Sr. wrote:  
> >>  
> >> What language has the largest known number of phonemes and how many  
does it  
> >> have?  
> >>  
> >> Has any work ever been done to determine a theoretical maximum?  
> >>  
> >> Thanks for any help that you can give me.  
> >  
> > David Crystal gives charts of the largest and smallest inventories in  
> > the Cambridge Encyclopedia of Language. Largest is a Khoisan language  
> > with four or five articulations for each of the clicks, totaling  
> > 80—something IIRC; smallest is Rotokas, with 11.  
>  
> Rotokas 11, Pirahã allegedly has only 10 (not counting 2 or 3 tones),  
> while !Xóõ has 141.

In Khoi–San languages, click consonants can have five influxes or location of preliminary closure, and many effluxes or accompaniments associated with the release of the back closure (three or four different locations, and various manners involving voicing, nasalisation, and aspiration). Maximally, this gives at least  $5 \times 4 \times 2 \times 2 \times 2 = 160$  possibilities for the clicks alone, though of course no language, even !Xóõ, uses all of them.

But these big numbers result from the assumption that all these complex segments are to be analysed as unit phonemes. Some people prefer to analyse them as clusters. This reduces the number of phonemes to more usual values.

Before people started counting phonemes in the Khoi–San and Chadic languages, the North–west Caucasian languages were thought to be world

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leaders, with Ubykh the champion at 80. Here there are seven places of articulation for obstruents, most of which have pharyngalised, labialised, or palatalised variants, which can be voiced, voiceless, aspirated, voiced fricative, and unvoiced fricative.

Again, I suppose it would be possible (though probably inappropriate) to reduce the number of phonemes by analysing some of these as clusters.

You can see that a language which combined clicks with Caucasian-type secondary articulations would end up with maybe a thousand or two different phonemes. Even this would be far below the "theoretical maximum".

John.

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- *Follow-Ups:*

- ◆ **Re: Phonemes**

- ◇ *From:* Peter T. Daniels

- ◆ **Re: Phonemes**

- ◇ *From:* David Wright Sr.

- *References:*

- ◆ **Phonemes**

- ◇ *From:* David Wright Sr.

- ◆ **Re: Phonemes**

- ◇ *From:* Peter T. Daniels

- ◆ **Re: Phonemes**

- ◇ *From:* Ruud Harmsen

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