

**To:** Unicode Technical Committee  
**From:** Akaki Razmadze  
**Date:** 23 January 2017  
**Subject:** Response to UTC on Mtavruli

Hello dear colleagues,

First of all, I apologize for the late reply. But During this time we had consulting meetings with the experts and government agencies. Following which we would like to answer to your last response with this email.

We are going to share this email to The Ministry of Education and Science of Georgia and other governmental agencies as well.

After Google DevFest conference, there was really big interest to the Mtavruli issue. At the DevFest there were 2 presentations about Mtavruli letters, which you can find here:

<http://unicode.com> or here:

1. <https://youtu.be/TOtWufvKE5Y>
2. <https://youtu.be/1M0nN2df0oM>

There is interest from government agencies as well and we will send you the support letter from various ministries of Georgia, as soon as possible.

### Short Summary

(For detailed text, please see the attachment)

There are several problematic matters the Unicode has brought up in the letter; we have identified the key issues and are here presenting a short summary of these issues and our responses to them:

1. The Unicode Standard leaves representation of emphasis (such as bold, italic, size, and small capitals or a *Mtavruli* style) to font providers.

With Mtavruli Letters it is technically impossible to implement it in the creation of the font the way it happens with bold, italic, size, and small capitals. This matter is further discussed in detail in the Monotype (one of the largest font providers in the world) support letter you can review on the Unicode website:

<http://www.unicode.org/L2/L2016/16081-n4712-georgian.pdf> P.22 → *“Our solution was chosen to enable a font behaviour for users of professional publishing software that comes closest to the behaviour of a regular upper and lower case alphabet i.e. by changing the case with the caps button in InDesign or making dictionaries work correctly with both alphabets. This would not be possible with all other solutions that can be found in the market. Having said this we would consider a revision of the Unicode standard to change the definition of the Georgian alphabet to being bicameral as highly desirable, thus defining Mtavruli as the upper-case pair to Mkhedruli, giving them regular codepoints. This would be the preferred solution for the Georgian implementation in Unicode”.*

2. If a new set of capital letters were added now, it would be very destabilizing and lead to serious representation and interoperability issues. Names in databases, for example, would be destabilized if capitalization was introduced. Searching and comparison operations would no longer give expected results, which would be significant when analyzing the large corpus of existing documentation.

We have had consults with local specialists and based on their conclusions, names in databases will not be causing destabilization. There won't be any problems with searching, either, since *Mtavruli* and *Mkhedruli* letters will be linked through the case pairing function and *Mtavruli* letter results will also be represented in *Mkhedruli* letter searches, just like in Latin letter search for the word "GEORGIA" we will receive the lowercase result – "georgia" as well.

3. Domain names and web pages would not easily match these changes but would require many years of transition.

As we know, there are valid and invalid characters in domain names. With Georgian, *Mkhedruli* characters are valid; the same as lowercase in Latin: [unicode.org](https://unicode.org) instead of [UNICODE.ORG](https://UNICODE.ORG). If *Mtavruli* is added, *Mkhedruli* and *Mtavruli* letters will be linked to one another and when Georgian domain is typed in *Mtavruli* letters, it will automatically be converted into *Mkhedruli* the same way it happens with Latin upper and lowercase characters.

**For detailed text, please see the attachment**

Thank you very much, Akaki Razmadze

## Detailed text

Dear Minister Jejelava,

Thank you for sharing with the Unicode Consortium a statement on the need for the *Mtavru*li representation for Georgian. The need for this headline style of font use has long been observed in Georgian texts, and we see it in your letter dated 12 October 2016 sent to Mr. Asatiani and later forwarded to the Consortium. Please note that attached is a copy of this letter that shows the use of the *Mtavru*li style in the heading of the letter (highlighted in yellow) and the use of the *Mkhedru*li caseless modern Georgian alphabet (highlighted in blue) in the body of the letter.

The Unicode Consortium understands, documents in the Unicode Standard, and fully supports the usage of *Mtavru*li as a prevalent and necessary font style for Georgian text.

We are delighted that the Unicode Consortium understands this situation and supports the use of *Mtavru*li letters. However, it is not entirely clear as to how this should be done. *Mtavru*li is not a font style. As it has been noted in multiple documents, *Mtavru*li letters first showed up in the nineteenth century and have been used as the uppercase in Latin script these days. This changed later on and *Mtavru*li letters have been used solely with the ALL CAPS function since. This eliminates the definition of *Mtavru*li being a style at its core. *Mtavru*li letters have different styles of their own.

There are many font distinctions that can be made for the representation of text (for example, bold, italic, or small capitals). However, the basic units of a language and its writing system are the discrete elements that the Unicode Standard encodes, including basic units of language and writing systems such as consonants, vowels and punctuation. The Unicode Standard leaves representation of emphasis (such as bold, italic, size, and small capitals or a *Mtavru*li style) to font providers.

In a certain sense, *Mtavru*li letters may be close to the small-caps style, but even this small-caps style would not exist (cannot be used) if there is no support for uppercase letters in the Unicode. If there is no CAPS, there cannot be small-caps. Due to the fact that there is no standard formatting for *Mtavru*li letters, there are represented differently in different font-files, often placed instead of *Asomtavr*li letters, or in the private use area, which creates numerous problems: they are not displayed in the same way in all computers, they cannot be searched, etc. This has even made space for the popularity of ASCII based fonts in Georgia. What is the reason for that? Naturally, one of the reasons behind this is that there is no single standard for representing *Mtavru*li letters and this problem is something the Unicode should take into account as well.

Before adding casing to *Mkhedru*li, the Consortium would want to review the impact of such a move to all the digital forms of existing data. The Unicode encoding has been in use in Georgia for many years. If a new set of capital letters were added now, it would be very destabilizing and lead to serious representation and interoperability issues. Names in databases, for example, would be destabilized if capitalization was introduced. Searching and comparison operations would no longer give expected results, which would be significant when analyzing the large

corpus of existing documentation. Domain names and web pages would not easily match these changes but would require many years of transition.

Consults and meetings with the local specialists have made it clear that these problems will simply not occur. If necessary, we are ready to present the conclusions from specialists of appropriate fields.

Names in databases will not cause destabilization. There will be new codepoints allocated for *Mtavru* letters. There will be no issues regarding searching either, since *Mtavru* and *Mkhedruli* letters will be linked through case pairing, providing the capacity to also find *Mtavru* letter search results when searching with *Mkhedruli* letters; the same way we see lowercase results i.e. "georgia" when searching for "GEORGIA" in Latin. Moreover, it's the current situation that causes destabilization and searching problems, since there is no single standard and representing *Mtavru* letters are often placed instead of *Asomtavruli* letters. The webpage of the Georgian government [www.gov.ge](http://www.gov.ge) can serve as an example where you will see that menu items are done in *Mtavru*, while texts have been typed in *Asomtavruli* letters. Thus, it is the current situation that creates problems, whereas making changes will only support solving these issues, particularly – the searching problem.

As for the domains, we know that there are valid and invalid characters for them. With Georgian, *Mkhedruli* is the appropriate, valid for domains, just like lowercase in Latin: it is unicode.org instead of UNICODE.ORG. If *Mtavru* is added, *Mkhedruli* and *Mtavru* letters will be linked to one another and when Georgian domain is typed in *Mtavru* letters, it will automatically be converted into *Mkhedruli* the same way it happens with Latin upper and lowercase characters.

#### Questions:

1. What are the Georgian school children learning? Do they learn *Mtavru* in addition to *Mkhedruli*?

Children had been studying *Mtavru* letters at school for years, the schoolbook they used to study with during the nineteenth century and the beginning of the twentieth was written in *Mtavru* and *Mkhedruli*. In this book, *Mtavru* letters were used after full stops and to write proper nouns. Many generations have been raised by this book. Considering the fact that *Mtavru* letters are no longer in use in the first word after the full stop these days, children are not being taught *Mtavru* letters separately. Just like German or British kids are not taught how to use ALL CAPS. This makes sense, since using *Mtavru* these days is the same as using ALL CAPS.

2. If so, is the use of *Mtavru* for emphasis, similar in manner to bolding or italicizing text?

There is an unambiguous answer to this question and the answer is - No! Georgians know how to use bold, as well as italics and bold italics. We even see reverse italics on different maps in Georgia, but this has nothing to do with *Mtavru*. *Mtavru* letters are considered ALL CAPS and they have bold and italic versions of their own.

3. Is there a problem with representation of earlier texts that employed capitalization?  
It is our understanding that this was an experiment that was not widely adopted.

As it has been said, the use of *Mtavruli* as the first letter of the word in the beginning of a sentence was common practice in the end of nineteenth century and the beginning of the twentieth. Naturally, the representation of texts employing this method is a problem these days, but the problem stands not just for them. As mentioned, *Mtavruli* is widely being used these days, the difference is that they are used only with the ALL CAPS function. If we go to the webpage of the Government of Georgia, we will see that the texts in the menu are written in *Mtavruli* but in the font file they are placed in the place of *Asomtavruli* letters. Why? The answer is simple, there is no place for *Mtavruli* in the Unicode and this is the solution applied in Georgia. Moreover, ASCII based fonts are widely spread in Georgia. Naturally, this is a problem for everyone; this is a problem for searching, for Georgian users and the Unicode, obviously.