

## Saxon - Bug #3326

### XTDE1061: There is no current group in Saxon-HE-9.8.0-2

2017-06-29 22:23 - Michael Kay

<b>Status:</b>	Closed	<b>Start date:</b>	2017-06-29
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Michael Kay	<b>% Done:</b>	100%
<b>Category:</b>	XSLT conformance	<b>Estimated time:</b>	0:00 hour
<b>Sprint/Milestone:</b>		<b>Spent time:</b>	0:00 hour
<b>Legacy ID:</b>		<b>Fix Committed on</b>	9.8
<b>Applies to branch:</b>	9.8	<b>Branch:</b>	
		<b>Fixed in Maintenance</b>	9.8.0.3
		<b>Release:</b>	
<b>Description</b>			
Reported here			
<a href="https://saxonica.plan.io/boards/3/topics/6839">https://saxonica.plan.io/boards/3/topics/6839</a>			

### History

#### #1 - 2017-06-29 22:25 - Michael Kay

Created W3C XSLT30 test case for-each-group-085

#### #2 - 2017-06-29 22:45 - Michael Kay

Here's the -explain output:

```
OPT : At line 6 of file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xml
OPT : Rewriting numeric filter expression with constant subscript
OPT : Expression after rewrite: child::element()[2]
OPT : At line 6 of file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xml
OPT : Rewrote Filter Expression as:
OPT : Expression after rewrite: child::element()[2]
OPT : At line 12 of file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xml
OPT : Inlined references to $t
OPT : Expression after rewrite: let $o := ForEachGroup(<t {FixedAttribute("T")}/>, let $g := one-or-more((current-group()) treat as element()) return ($g[(data(attribute::attribute(Q{n})) = (data($c/attribute::attribute(Q{n})))], data(attribute::attribute(Q{n})), "http://www.w3.org/2005/xpath-functions/collation/codepoint") return (ApplyTemplates(child::node(), $o))
OPT : At line 21 of file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xml
OPT : Inlined references to $o
OPT : Expression after rewrite: ApplyTemplates(child::node(), ForEachGroup(<t {FixedAttribute("T")}/>, let $g := one-or-more((current-group()) treat as element()) return ($g[(data(attribute::attribute(Q{n})) = (data($c/attribute::attribute(Q{n})))], data(attribute::attribute(Q{n})), "http://www.w3.org/2005/xpath-functions/collation/codepoint"))
OPT : At line 15 of file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xml
OPT : Lifted (let $g := ...) above (xsl:apply-templates) on line 21
OPT : Expression after rewrite: let $Q{http://saxon.sf.net/generated-variable}v0 := let $g := (one-or-more(current-group())) treat as element() return ($g[data(@n) = (data($c/attribute::attribute(Q{n})))]) return (ApplyTemplates(child::node(), ForEachGroup(<t {FixedAttribute("T")}/>, $Q{http://saxon.sf.net/generated-variable}v0, data(@n), "http://www.w3.org/2005/xpath-functions/collation/codepoint"))
OPT : At line 17 of file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xml
OPT : Lifted ($c / @n) above (let $vv:v0 := ...) on line 15
OPT : Expression after rewrite: let $Q{http://saxon.sf.net/generated-variable}v1 := data($c/attribute::attribute(Q{n}) return (let $Q{http://saxon.sf.net/generated-variable}v0 := let $g := (one-or-more(current-group())) treat as element() return ($g[data(@n) = $Q{http://saxon.sf.net/generated-variable}v1]) return (ApplyTemplates(child::node(), ForEachGroup(<t {FixedAttribute("T")}/>, $Q{http://saxon.sf.net/generated-variable}v0, data(@n), "http://www.w3.org/2005/xpath-functions/collation/codepoint")))
Stylesheet compilation time: 522.359446ms
<stylesheet xmlns:fn="http://www.w3.org/2005/xpath-functions"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <globalVariables/>
  <mode onNo="TC" flags="dW" patternSlots="0">
    <ruleSet type="namedElements">
      <ruleChain key="c">
```

```

<templateRule prec="0"
    prio="0.5"
    seq="0"
    rank="1"
    minImp="0"
    slots="4"
    flags="s"
    line="5"
    module="file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.
xsl">
  <p.withUpper role="match" axis="parent" upFirst="false">
    <p.nodeTest test="element(Q{c})"/>
    <p.nodeTest test="document-node()"/>
  </p.withUpper>
  <let role="action"
    baseUrl="file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xsl"
    ns="xsl=~ xs=~"
    line="6"
    var="c"
    as="element()?"
    slot="0"
    eval="7">
    <subscript>
      <axis name="child" nodeTest="element()"/>
      <int val="2"/>
    </subscript>
    <let xmlns:vv="http://saxon.sf.net/generated-variable"
      line="17"
      var="vv:v1"
      as="xs:untypedAtomic?"
      slot="1"
      eval="13">
      <data>
        <slash simple="1">
          <varRef name="c" slot="0"/>
          <axis name="attribute" nodeTest="attribute(Q{n})"/>
        </slash>
      </data>
      <let line="15" var="vv:v0" as="element()*" slot="2" eval="4">
        <let var="g"
          as="(element() intersect element(Q{t}, Q{http://www.w3.org/2001/XMLSchema}untyped))+)"
          slot="3"
          eval="8">
          <treat as="element()" diag="3|0|XTTE0570|g">
            <check card="+" diag="3|0|XTTE0570|g">
              <currentGroup/>
            </check>
          </treat>
          <filter line="17" flags="b">
            <varRef name="g" slot="3"/>
            <gc op="=" card="1:1" comp="CCC">
              <attVal name="Q{n}" chk="0"/>
              <varRef name="vv:v1" slot="1"/>
            </gc>
          </filter>
        </let>
        <applyT line="21" flags="i" bSlot="0">
          <axis role="select" name="child" nodeTest="node()"/>
          <withParam name="o" flags="t" as="element()*">
            <forEachGroup line="9" algorithm="by">
              <elem role="select" name="t" namespaces="xs">
                <att name="n" flags="1">
                  <str val="T"/>
                </att>
              </elem>
              <attVal role="key" line="13" name="Q{n}" chk="0"/>
              <str role="collation"
                val="http://www.w3.org/2005/xpath-functions/collation/codepoint"/>
              <varRef role="content" line="15" name="vv:v0" slot="2"/>
            </forEachGroup>
          </withParam>
        </applyT>
      </let>
    </let>
  </let>
</let>

```

```

    </templateRule>
  </ruleChain>
  <ruleChain key="t">
    <templateRule prec="0"
      prio="0.0"
      seq="1"
      rank="0"
      minImp="0"
      slots="1"
      flags="s"
      line="26"
      module="file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.
xslt">
      <p.nodeTest role="match" test="element(Q{t})"/>
      <param role="action"
        baseUri="file:/Users/mike/w3c/xslt30-test-B/tests/insn/for-each-group/for-each-group-085.xslt"
        ns="xsl~ xs~"
        line="27"
        name="o"
        slot="0"
        flags="t"
        as="element()*">
        <empty role="select"/>
        <treat role="conversion" as="element()" diag="8|0|XTTE0590|o">
          <supplied slot="0"/>
        </treat>
      </param>
    </templateRule>
  </ruleChain>
</ruleSet>
</mode>
<namedTemplates/>
<accumulators/>
<functions/>
</stylesheet>

```

The critical thing here is:

```
OPT : Lifted (let $g := ...) above (xsl:apply-templates) on line 21
```

This loop-lifting is clearly incorrect. (Note, the loop-lifting code is completely rewritten in 9.8)

**#3 - 2017-06-29 23:00 - Michael Kay**

The loop-lifting error is a consequence of an earlier incorrect tree rewrite: the "controlling instruction" held in the current-group() call is not the xsl:for-each-group instruction that is currently its container in the expression tree. This basically means that the cached information has become out-of-date.

This happens when the ForEachGroup instruction is copied, when its containing variable is inlined. The copy operation fails to rebind the link from the current-group call to the ForEachGroup instruction. Added a call on fixupGroupReferences() after the copy() operation to solve the problem.

**#4 - 2017-06-29 23:37 - Michael Kay**

- Status changed from New to Resolved
- Fix Committed on Branch 9.8 added

**#5 - 2017-07-06 13:40 - O'Neil Delpratt**

- % Done changed from 0 to 100
- Fixed in Maintenance Release 9.8.0.3 added

Bug fix applied in the Saxon 9.8.0.3 maintenance release.

**#6 - 2017-07-06 13:46 - O'Neil Delpratt**

- Status changed from Resolved to Closed