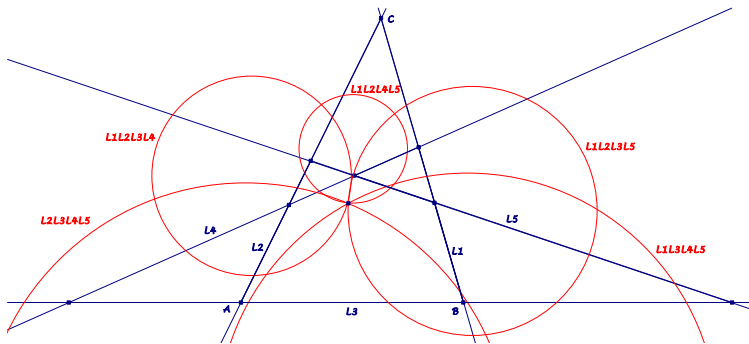


Background for these notes is:  
 Chris van Tienhoven: Encyclopedia of Quadri-Figures  
<http://chrisvantienhoven.nl/>

### Common Point of five Miquel Circles

*Five lines give five quadr. Their Miquel circles have a common point. In this paper there are some examples for a quadrilateral and a further line. – The results are CABRI-controlled.*

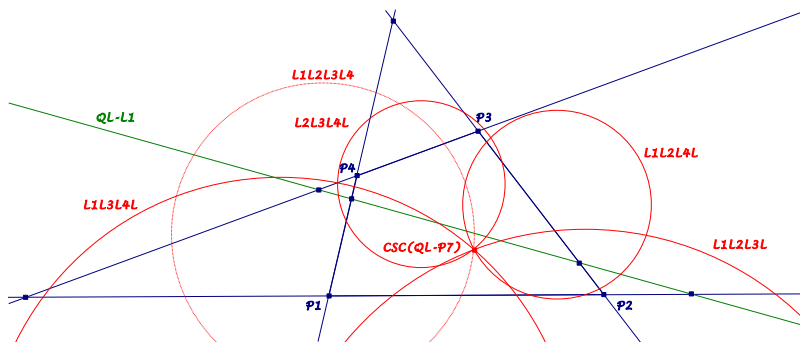


**The Miquel circles ( $QL-Ci3$ ) of the five quadrilaterals of five lines have a common point.**

A calculation with barycentric coordinates is possible, taking three of the lines for a reference triangle. But the results can't be handled.

We consider now a quadrilateral  $L_1L_2L_3L_4$  and a further line  $L$ . Then the Miquel circles of the quadrilaterals

$L_1L_2L_3L$ ,  $L_1L_2L_4L$ ,  $L_1L_3L_4L$ ,  $L_2L_3L_4L$  and  $L_1L_2L_3L_4$  have a common point, here named  $MC$ -point of a line wrt a quadrilateral. The Clawson-Schmidt Conjugate ( $CSC$ ) of the  $MC$ -points lie on  $QL-L2$  ( $CSC$  image of  $QL-Ci3$ ).



**Examples:**

**QL-L1**

*MC*-point is *CSC* of *QL-P7* (see above).

**QL-L2,3**

*MC*-point is *QL-P1*.

**Lines orthogonal to *QL-L1***

*MC*-point is *QL-P1*.

**QL-L4**

*MC*-point is *CSC* of the reflection of *QL-P2* in *QL-P7*.

**Line through *QL-P4*, parallel *QL-L1***

*MC*-point is *CSC* of *QL-P2*.

**Lines parallel to *QL-L1***

*MC*-point is *CSC* of the reflection of the intersection of the line with *QL-L2* in *QL-P7*.

**QG-P1.QG-P14**

*MC*-point is the second intersection of *QL-Ci3* with the *CSC* image *QG-P1.QG-P14*.

**Limit cases:**

**Lines parallel to the quadrangle sides**

*MC*-point is *CSC* of the intersection of the sideline and *QL-L2*.

**Diagonals of the quadrilateral**

*MC*-point is *CSC* of the intersection of the diagonal and *QL-L2*.

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