212(2): Refutation of the Einsteinian General Relativity by Consideration of the Tetrad Postulate.

Consider the tetrad postulate:

$$D_\mu q^a_\nu = \partial_\mu q^a_\nu + \omega^a_{\mu\nu} - \Gamma^a_{\mu\nu} = 0. \quad -(1)$$

It follows that

$$D_{\mu'} q^{a'}_{\nu'} = 0 \quad -(2)$$

in any other coordinate system. Therefore $D_\mu q^a_\nu$ must transform as a tensor. From eq. (1):

$$\partial_\mu q^a_\nu = \Omega^a_{\mu\nu} \quad -(3)$$

where

$$\Omega^a_{\mu\nu} = \Gamma^a_{\mu\nu} - \omega^a_{\mu\nu}. \quad -(4)$$

It has been proven in previous notes that $\Omega^a_{\mu\nu}$ transforms as a tensor:

$$\Omega^{a'}_{\mu'\nu'} = \frac{\partial x^{a'}}{\partial x^a}\frac{\partial x^\mu}{\partial x^{\mu'}}\frac{\partial x^\nu}{\partial x^{\nu'}}\Omega^a_{\mu\nu}. \quad -(5)$$

It follows that $\partial_\mu q^a_\nu$ must transform as a tensor. This property is proven as follows. In general:

$$\partial_{\mu'} q^{a'}_{\nu'} = \frac{\partial x^\mu}{\partial x^{\mu'}}\frac{\partial}{\partial x^\mu}\left(\frac{\partial x^{a'}}{\partial x^a}\frac{\partial x^\nu}{\partial x^{\nu'}} q^a_\nu\right) \quad -(6)$$

Using the Leibniz Theorem:

2)

$$\partial_{\mu'} q^{a'}_{\nu'} = \frac{\partial x^{\mu}}{\partial x^{\mu'}} \frac{\partial x^{\nu}}{\partial x^{\nu'}} \frac{\partial x^{a'}}{\partial x^{a}} \left(\partial_{\mu} q^{a}_{\nu} \right) \quad -(7)$$

$$+ \; q^{a}_{\nu} \frac{\partial}{\partial x^{\mu}} \left(\frac{\partial x^{a'}}{\partial x^{a}} \frac{\partial x^{\nu}}{\partial x^{\nu'}} \right).$$

Note that:

$$\frac{\partial x^{a'}}{\partial x^{a}} \frac{\partial x^{\nu}}{\partial x^{\nu'}} = \frac{\partial x^{a'}}{\partial x^{\nu}} \frac{\partial x^{\nu}}{\partial x^{a}} \frac{\partial x^{\nu}}{\partial x^{\nu'}} \quad -(8)$$

$$= \frac{\partial x^{a'}}{\partial x^{\nu'}} \frac{\partial x^{\nu}}{\partial x^{a}}$$

$$= \frac{\partial x^{a'}}{\partial x^{\nu'}} \frac{\partial x^{\nu}}{\partial x^{b}} \frac{\partial x^{b}}{\partial x^{a}}$$

$$= 0$$

because

$$\frac{\partial x^{b}}{\partial x^{a}} = 0. \quad -(9)$$

Therefore:

$$\boxed{\partial_{\mu'} q^{a'}_{\nu'} = \left(\frac{\partial x^{\mu}}{\partial x^{\mu'}} \frac{\partial x^{\nu}}{\partial x^{\nu'}} \frac{\partial x^{a'}}{\partial x^{a}} \right) \partial_{\mu} q^{a}_{\nu}} \quad -(10)$$

and transforms as a tensor, Q.E.D.

This is another refutation of EGR

3) because the result (5) implies that the connection has no symmetric component in any frame of reference. This follows from the fact that the inhomogeneous term in the general coordinate transform of the connection is zero.

The results (5) and (10) mean that eq. (2) is true given eq. (1), Q.E.D.

Conclusion

The Einsteinian general relativity is refuted completely by simple considerations of Cartan's differential geometry, and by many other methods.