

## NULLIFICATION OF RELATIVITY THEORY VIA THE SUFFICIENCY OF THE GALILEAN VELOCITY TRANSFORMATION

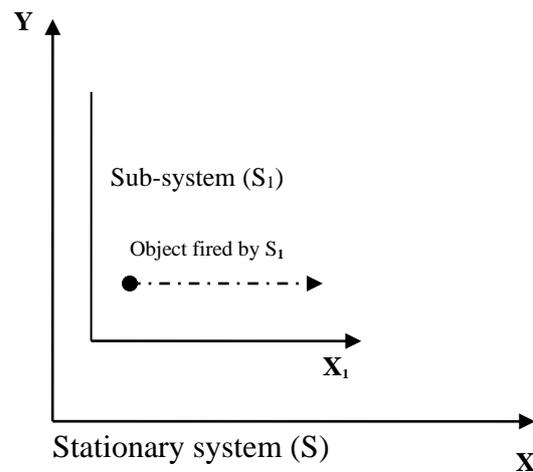
S = Stationary system

$S_1$  = Sub-system moving to the right within S

u = velocity of  $S_1$  relative to S

$v_1$  = velocity of object relative to  $S_1$

v = velocity of object relative to S



### Galilean Velocity Transformation

$$v = v_1 + u$$

### The Relativist

Light always travels at  $c$ , therefore if the object fired by  $S_1$  is light, the equation becomes:

$$c = c_1 + u$$

The speed of light is *always*  $c$ , therefore because  $u > 0$ , the time scale of  $c_1$  must be different to the time scale of  $c$ :

$$c = \Delta x / \Delta t$$

$$c_1 = \Delta x_1 / \Delta t_1$$

## NULLIFICATION OF RELATIVITY THEORY VIA THE SUFFICIENCY OF THE GALILEAN VELOCITY TRANSFORMATION (CONT.)

### The Realist

Light always travels at  $c$ , therefore if the object fired by  $S_1$  is light, the equation becomes:

$$c = c_1 + u$$

The speed of light is *always*  $c$ , therefore:

$$c_1 = c$$

Therefore we derive that  $u = 0$  and that  $S_1$  must be redundant.

This accords with the fact that the speed at which light travels is unaffected by the speed of its source.

### **Conclusion**

Although the Galilean transformation was devised for objects with mass, it can cater for a massless object such as light by means of its special case where the speed of its sub-system is 0.

What if  $S$  is itself a sub-system? Then it becomes  $S_1$  in a new  $S$ , and is also redundant, and so on *ad infinitum*: light's speed is never affected by the speed of its source: its frame of reference is distance alone.

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