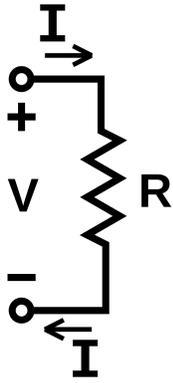


Ohm's Law and Literature



Ohm's law states that the current through a conductor between two points is directly proportional to the voltage across the two points. The usual mathematical equation that describes this relationship is

$$I = V/R$$

where I is the current through the conductor, V is the voltage, and R is the resistance of the conductor.

I = Current --- An electric current is the rate of flow of electric charge past a point or region.

V = Voltage --- The difference in electric potential between two points. The difference in electric potential between two points is defined as the work needed to move a test charge between the two points.

R = Resistance --- a measure of its opposition to the flow of electric current.

Hypothesis: In order to reach an understanding of a system, including the system that is a work of literature, it is important to be able to describe the elements within the system and their interactions. Further, if laws exist within one discipline they should continue to exist outside of that field. In other words, the law of gravity does not exist solely in the science classroom; it does not cease to exist within the study of, say, history.

This approach opens many doors for readers. It means that we can use the tools of other disciplines, tools which many find comfortable to work with, And so, we turn to Ohm's Law, a pretty basic building block for most physics students encountering electricity for the first time.

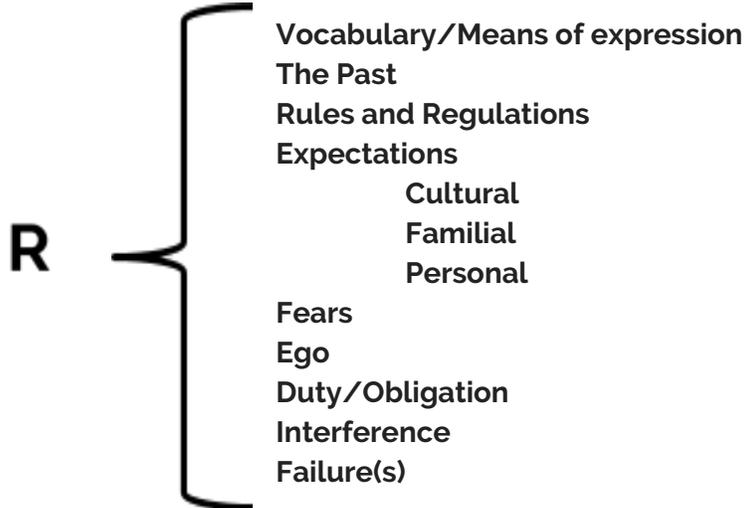
For this to make sense, it is important for us to redefine the terms a bit. So, let's think of our three principal terms (current, voltage, and resistance) in an expanded way.

Current = FLOW = the movement across time and space from one point to another

Voltage = DRIVE = the work or motivation needed to move an object, concept, or character from one point to another

Resistance = RESISTANCE = the obstacles and blockades that interfere with the direct path of the object, concept, character; this is the environment or world in which the actor operates

Forms of RESISTANCE



If we redefine or establish current as FLOW or rather the movement across time and space, we should be able to see that most systems, literature included, seek to maximize flow, bring it to its full potential. According to Ohm's Law, to maximize FLOW one of three conditions has to take place:

1. Resistance must be kept constant as voltage is increased
2. Resistance must be decreased as voltage remains the same or increases
3. Both resistance and voltage can be increased, but voltage must be increased at a higher rate than resistance

In a literary system this can be understood as trying to maximize the success of a character's attempt to reach a goal. As in an electrical system, three conditions must be met for this movement to be maximized:

1. The multiple factors creating resistance (or possibly conflict) toward a character's movement must be held constant as the desire, passion, motivation, dream, etc. is increased
2. The multiple factors creating resistance (or possibly conflict) toward a character's movement must be decreased as the drive remains the same or increases
3. The multiple factors creating resistance (or possibly conflict) toward a character's movement can increase BUT only if the DRIVE is increased at a higher rate than the resistance is increasing

Now it's the students turn to try and prove the working of Ohm's law within a chosen or set piece of literature. How does the law help one describe the movement of a character in a novel from beginning to end? Can the student describe this movement?

PLEASE NOTE: Unlike real systems, fictional systems are often free to break established laws governing behavior, and, in fact, do so quite often. Therefore, it is perfectly acceptable to reach a conclusion that the law under question is in fact being violated.