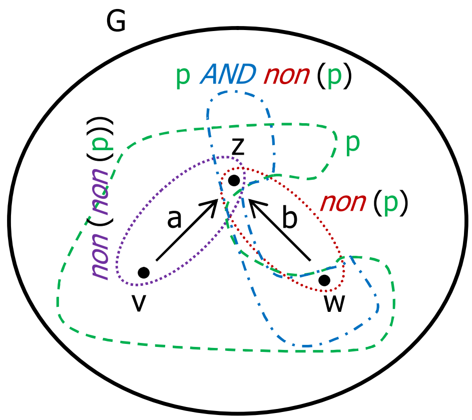
p = core (p) + boundary (p)

Let us consider a graph G as depicted below:



The graph G consists of two arrows a and b, with distinct source dots v and w, respectively, but with a common target dot z. Let us now consider a part p (demarcated by the green dashed closed contour consisting of the arrow a (with its source (v) and target (z) dots) and the dot w) of the graph G. Given a part p of an object (graph G), with negation operation *non* defined as the smallest part of the object (graph) G satisfying:

p + *non* (p) = G

where '+' denotes union or the logical operation *OR*, we find that *non* (p) is the arrow b (with its source (w) and target (z) dots; depicted by the red round dot closed contour).

Next, we find that the intersection:

p *AND* *non* (p) = {w, z}

is both the source (w) and target (z) dots of the arrow b, which is the boundary of the part p (depicted as blue dash dot closed contour).

Next, we find that the double negation

$$\mathit{non}\,(\mathit{non}\,(p)) = a$$

is the arrow a (with its source (v) and target (z) dots), which is the core of the part p (depicted as purple square dot closed contour).

Finally, we find that the part

$$p = \text{core}\,(p) + \text{boundary}\,(p)$$

where part p is the arrow a (with its source (v) and target (z) dots) and dot w, while core (p) is the arrow a (with its source (v) and target (z) dots), and boundary (p) is the two dots w and z.