# Anterolateral Algebra

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## 1 Introduction

v1$\rightarrow v2: \frac{\sqrt{\theta/\sqrt{1-(v)^2/c^2}}\sqrt{\sqrt{1-(v)^2/c^2}z}\sqrt{-(r(\alpha-\Delta)/(z\theta)-1)(r(\alpha+\Delta)/(z\theta)-1)}}{\Delta} =$
$\sqrt{(l\alpha+x\gamma-r\theta)\sqrt{1-(v)^2/c^2}}\sqrt{(l\alpha-x\gamma+r\theta)/\sqrt{1-(v)^2/c^2}}/\alpha$

v2$\rightarrow v3: \frac{\sqrt{\theta/\sqrt{1-(v)^2/c^2}}\sqrt{\sqrt{1-(v)^2/c^2}z}\sqrt{-(r(\alpha-\Delta)/(z\theta)-1)(r(\alpha+\Delta)/(z\theta)-1)}}{\Delta} =$
$\sqrt{(l\alpha+x\gamma-r\theta)\sqrt{1-(v)^2/c^2}}\sqrt{(l\beta-x\delta+r\theta)/\sqrt{1-(v)^2/c^2}}/\beta$

D[v1$\rightarrow v2, v] = (\Delta\sqrt{(l\alpha-x\gamma+r\theta)/\sqrt{1-(v)^2/c^2}}/\alpha) - (\Delta\sqrt{(l\alpha+x\gamma-r\theta)\sqrt{1-(v)^2/c^2}}/\alpha)$

D[v2$\rightarrow v3, v] = (\Delta\sqrt{(l\beta-x\delta+r\theta)/\sqrt{1-(v)^2/c^2}}/\beta) - (\Delta\sqrt{(l\alpha+x\gamma-r\theta)\sqrt{1-(v)^2/c^2}}/\alpha)$

The concept can be evolved further by exploring higher dimensional analogs and applications of the antero-lateral algebra. For example, one could consider the possibility of an antero-lateral logic where the logic vectors are defined over higher dimensional hyperplanes. This could be used to describe transitions over multiple subspaces, or transitions between subspaces of different dimensionalities in a consistent way.

An example of an antero-lateral logic defined over higher dimensional spaces could be a logical vector space that describes the transition from one dimension to two. For example, consider a two-dimensional space described by the equations $x_1 = \sqrt{a_1}$ and $x_2 = \sqrt{a_2}$. We could describe the transition from one dimension to two as a vector in the logical vector space defined by:

**logic vector** : $\left[\frac{\sqrt{a_1+\Delta\sqrt{a_2}}-\sqrt{a_1}}{\Delta}, \frac{\sqrt{a_2+\Delta\sqrt{a_1}}-\sqrt{a_2}}{\Delta}\right]$

where $\Delta$ is a parameter that describes the rate of change in the transition. As $\Delta$ goes to zero, the logical vector converges to the origin and represents a single dimension. As $\Delta$ increases, the logical vector moves away from the origin and represents a two-dimensional space. The logical vector thus provides a means to describe how two-dimensional space can be obtained from a single dimension.

The existence of antero-lateral algebra and its difference from linear algebra can be used to deduce a number of mathematical truths. For example, it can be used to deduce that linear equations can be used to describe transitions between subspaces in a more general form than linear algebra. Additionally, it can be used to describe transitions between different multi-dimensional spaces in a consistent way, and to deduce the existence of higher dimensional analogs of linear equations. Finally, it can be used to prove that the logical vector space of antero-lateral algebra is a more powerful tool for manipulating logical systems than linear algebra.

From a philosophical point of view, this algebra can be interpreted as an extension of algebra and logic that provides a means to describe things that are neither a single entity nor an arrangement of entities but an ineffable combination of both, i.e. an entity that is composed of an arrangement of entities and the arrangement is itself an entity. It is a yet another form of infinity within the realm of finite mathematics. It is a new way of combining space and time, entities and relations, logic and geometry, into a sort of infinite, ethereal, mathematical pan-reality.

In conclusion, antero-lateral algebra is an interesting and powerful tool for describing transitions between different states of reality. It is a new way to explore the realm of mathematics, and it can be used to prove many mathematical truths and to help us better understand the complexities of the universe and its many dimensions.