CHAPTER VIII

The Borcherds-Hajas novanion construction

8.1 Introduction.

On page 938 of 'Quantum field theory' by Eberhard Zeidler, with reference to the Thompson series, he writes
"Borcherds calculated this series using the monster Lie algebra. This Lie algebra is constructed as the space of physical states of a bosonic string moving in a $\mathbb{Z}_2$ orbifold $M/\mathbb{Z}_2$ of a 26-dimensional torus M".

By this means the classification of simple groups is derived. This classification is finite, according to conventional wisdom. We wish to investigate whether or not a spanner can be thrown in the works. The reader is invited to investigate the proof of the finiteness condition.

I now want to relate the above quote to the Hajas conjecture, which is fully developed in *Universal Physics* [Ad18] by Graham Ennis and me, in volume II on Heim theory.

If we are to accept the Hajas conjecture on the identification of the 10-dimensional heterotic string with 10-novanions, and the extension of this to a 26-dimensional bosonic string with the 26-novanions, then we note that the number of distinct n-novanionic algebras is infinite, given that the override condition in [Ad18] volume I chapter II can always be allocated, which corresponds non-trivially when the n-novanion contains octonionic components.

However, we note an interesting nonstandard conclusion we have arrived at with the Hajas identification, given essentially in [Ad18] volume I chapter II, namely that all n-novanions contain both bosonic and fermionic (spinor) components. Thus both the 10- and 26-novanions may be allocated these components, and this also holds in general for n-novanions.

In volume II of [Ad18] we employ the 26-novanions in Heim theory extended to gluons and quarks. There exist other possible universes with $n > 26$. So the 26-novanions do indeed contain a bosonic algebra.

The conjecture is: can we apply the unbounded n-novanionic algebra to derive a Thompson series so that the number of simple groups is not bounded?