

A HUNDRED POSTERS

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May 30, 1977

Dear Alan Davies -

I guess you received my ms. dealing with line spectra. Briefly, I observe that atomic weight and number cannot account for the order in the lines. I suggest that valence may have something to do with it, noting that noble gases are inactive and that, unlike the others, they seem to have lines in common (as example I give Helium and neon). In Luxemboury recently, I pursued the matter further. At the National library I consulted a massive German tome, Kayser's work on line spectra in around nine volumes (these volumes consisting of numbers only, in Angstrom units) wherein I found that (my notes were stolen in Germany, so I cannot recall with certainty) Krypton and Xenon have lines in common

You  
may  
publish  
this

Best Regards,

Britton Wilkie

## Line Spectra of the Periodic Table

A gypsy cart in the snow...  
The travelling show of mythical monsters  
hidden behind decorative screens of swastika  
signs, of alchemic figures paralyzed in their  
understanding at the doorways of dream, has  
come to a halt. Unable to sell shares in  
hell or pawn grief's jewels, our mercurial  
operator puzzles coldly at his own shell  
game - essays to discard the shells, which  
appear as colored lines - and concern  
himself with the matter they cover, which  
seems as balls of music fast-expanding,  
as a dense pea irritating to the princeps, as  
an unborn gravedigger's shroud and as an  
everlasting cloud in a flash of light  
most loud...

50-

Our gypsy mountebank has taken  
it upon himself to juggle with very small  
balls (so deftly does he bounce them  
about, that they change magically in number  
and color). So very small are they  
that I cannot see them. The gong that  
announces the performance ...

... is a tiny spark. With the light comes the image of concentric spheres of vibration about a center. When one of the outer spheres collapses to the innermost, invisible rays proceed. When the collapse is to the secondmost, visible rays proceed ... And so forth into rays ever redder, waves ever longer. This orb of phantom vibration evaporates to reveal Mendeleev's mineral cabinet on which vials of gas, bits of metal, curious rocks - in short, the elements - have been arrayed in little pigeonholes according to their weight - so that hydrogen lifts gently under the upper left-hand corner, while uranium weighs heavily in the bottom right-hand corner.

We can examine the array as columns up and down as well as rows left to right. The 8th column, the noble gases, do not combine chemically. Seeking understanding, we may follow threads connecting each pigeonhole with an imaginary balloon floating above it. Here our memory of concentric spheres of vibration changes form somewhat, rather as an orange turning suddenly blue, as the gypsy topples it from one hand to the other.