Jasper V. Wall comments on Higgs' chapter 11 "Quasars and Exploding Galaxies"
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The conundrum facing quasar researchers in the late 1960s is cogently described by Arthur Higgs. The best were baffled, with perhaps one exception: Martin Rees (1966, 1967) proposed a way forward. Suppose quasars were not radiating isotropically? The Burbidge `Compton catastrophy' could be avoided and quasars could comfortably be placed at the classical redshift given by the Hubble expansion. The evidence followed, well after Higgs's exposition. The rapid variation of quasars could be explained by relativistically-beamed expansion. Many quasars were known to exhibit the double-component structure of radio galaxies; the knots of emission in the jets of some radio galaxies were shown by very long baseline interferometry observations to move at relativistic speed. Relativistic beaming of this type meant that luminosities at both radio and optical wavelengths based on the incorrect anisotropy assumption were overestimated by factors of many orders of magnitude. It was perhaps Scheuer and Readhead (1969) who first proposed a unified model, in which optical quasars, oriented at random, occasionally would be oriented so that their axis of relativistic ejection coincided with the line of sight. Later data showed that the paradigm worked beautifully for double radio galaxies vs quasars, the quasar resulting when the system axis of ejection coincided with the line of sight. Moreover, in this direction one could see directly into the black-hole accretion-disk system (Lynden-Bell 1969) at the heart of the system whose light was blocked from a side view by a donut-shaped dust wall about the black hole. Side-on view then showed a radio galaxy with double-lobe structure; end-on view along the axes, a flat-spectrum radio source with radio and optical variability, and a quasar (the nucleus) with the galaxy `fuzz' dominated by star-like light from the central system. Later several other effects such as the frequency-dependent shape of the source counts were shown to be explained (Shimmins, Bolton and Wall 1968; Jackson and Wall 1999) by this elegant model.

The Higgs mistake:

One day in 1968 I scribbled down what I thought our new survey meant in terms of source statistics. Over lunch and unbeknownst to me, John Bolton and John Shimmins read the scribbles on my desk and came to me with light in their eyes. Yes that's it they said, and we must publish this in *Nature*. We sent it off, and John Bolton went away to California for a couple of months. While he was away I got the proofs; Shimmins, Bolton and Wall as authors, instead of what we sent as Wall, Shimmins and Bolton. I rang up Arthur Higgs. What the hell? He rather lamely defended the whole thing. Well, it was all done with Parkes ANRAO CSIRO, and "we" couldn't have a student from a different institution (Australian National University) fronting it….They couldn't be bothered to tell me before the event. I could do little but foam at the mouth at this stage. John Bolton made a point of coming to me and apologizing when he returned. It never would have happened had he been in the country.

Anyways. SBW has done well in the interim, if that is my consolation. But as my first real discovery, I felt it.

References

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