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7 April 1975

Drs B. and D. Wills,
Department of Astronomy,
University of Texas,
Austin, Texas 78712.

Dear Bev and Derek,

Many thanks for your letter with galaxy red shifts, notes on QSS and other goodies. We'll not be re-researching the post-1973 literature for reidentifications of our sources until we have finished our own inspection of the Sky Survey prints and plates using our final interferometer structures. At present we are deliberately insulating this project from the ID literature (and the existing radio-structure literature) in order to be able later to assess the credibility of our own procedures. This should not endanger the bright-galaxy identifications even in our "working" lists, but it would certainly be very necessary for you to check any object I've noted as faint, small, close to print limit, etc. against your QSS data - especially in the VLB sample.

Given that we won't normally have optical spectra for faint objects we will be going to the Sky Survey plates to classify objects whose diffuseness is uncertain from the prints, as well as to measure the more difficult galaxies. Probably most of the difficult cases will drop themselves out of our working sample at that point, but at present we have not yet done any "filtering" of the sample to weed out the borderline cases. Takes all the time at present to deal with the radio data on which our reinspections will be based.

On MA 1635-03, I'll await the optical spectral verdict. We based its nomination as a galaxy on its appearance on the D.D.O. plate copy of the Sky Survey. George and I don't have our notes with us here, but George recalls this object being dubious on the prints. As there are other (non-MA) E galaxies that definitely have Q-type radio spectra, the radio spectral statistics don't uniquely produce a classification for individual sources; so while, as you say, it "should" be a QSO, it would be good to prove it.

2331-240 = 0Z-252 was too far south to have been included in the 300-foot observations (S limit -19° due to finite ditch depth). Ed and I already are knock-kneed at the size of the VLB list we are presently confronting ourselves with (QSS and all) so will probably opt conservatively for pursuing only the sources that survive their way through the final pruning of our present sample. This reinforces the need for more people than us to be working at more than just radio studies of a suitably-well-chosen group of radio galaxies. I completely agree that the more we know about the galaxies optically the more chance there will be to make sense of any orientation-related effects. By mid-summer we hope to have the Green Bank data analysed sufficiently to have

a reliable list of galaxies (including fainter ones) with measurable radio elongations and credible identifications. At that not-too-far-off stage we could usefully get together with folks like yourselves and Susan Simkin to plan more co-ordinated studies of a carefully-selected sample. I'm sure that such an approach would have the best chance of unravelling the radio-galaxy phenomenon, and that there would be more than enough work to go round, between spectral studies, filter photography and VLB !

Thanks particularly for the red shift of NGC 315. We have now confirmed that the outer "components" on the BDFL map are very similar in flux density at 21cm, and several arc minutes in extent, and have applied for Arecibo time at 11cm to map the field. Jim Condon and Ken Kellermann have included the central source in recent VLB runs so we hope soon to have a lot more in hand to say whether this is indeed another big source "missed" by the radio surveys.

The big storm last week has contributed some to our data reductions by reducing the observing time - 70 mph wind gusts do not do too much that's good for the 85-foot telescopes here. But we have managed to observe most of our high-priority program and will not be too far behind the schedule we have hopefully been setting for ourselves on the galaxy observations.

As ever,

A handwritten signature in black ink, appearing to be 'JG' or similar, written in a cursive style.