Recent and Ongoing Projects of the Deep Sky Observing Section

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Thank you for the opportunity to share a bit of the on-going history of deep sky observing in our country.

I'm sure that many thousands of people have looked at the Jewel Box, and that many telescopes have turned to Omega Centauri, but systematic observation of the deep sky is somewhat like dark matter – apparently everywhere but sight-unseen.

The earliest publication I could find about deep sky observing in South Africa – if one sets Lacaille and John Herschel aside – is in 1884, by William Henry Finlay, who recorded 5 new nonstellar objects while at the Cape. Shortly afterwards, R.T.A. Innes recorded 14 new objects. At the same time, Joseph Lunt, also at the Cape, records 7 new objects. These were all found with the 6, 7, 18 and 24-inch refractors.

Notes on Nebulæ ob	served at the Royal Observatory, Cape of Good Hope.						
(Communicated by Sir David Gill, K.C.B., F.R.S., H.M. Astronomer.)							
By Mr. J. Lunt.							
Five new nebulæ were picked up with the 18-inch telescope during a search for Brorsen's Comet in 1900. Their positions are (1900)—							
R.	.A. Dec.						
22	3 [°] 5 -47 40						

Also around this time, there is occasional mention in the Union Observatory Circulars of a nebulous object that was noticed, typically on a photographic plate taken with the Franklin-Adams Star-Camera.

Then, in 1924, Dr James Moir publishes, in what was to become *MNASSA*, an article in which he lists 16 famous objects, and a handful of double stars, and encouraged folk to look at them.

The next publication I'm aware of was in 1969 by Jack Bennett, who was then Director of the Comet (and Meteor) Section. He published a list of southern HOW TO FIND THE FAMOUS TELESCOPIC OBJECTS OF THE SOUTH.

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By James Moir, D.Sc., M.A., F.I.C., etc., etc.

This paper is written because the author believes that many amateur observers are unable to find certain well-known objects in the heavens, and because practically all the books which have popularized astronomy are written for the Northern Hemisphere. The following descriptions are intended to be

comet-like objects he'd logged while cometeering; "shades of Messier" as he put it. A second list was published in 1974. It's interesting to add that in 1968 Bennett discovered a supernova in M83, the first visual

discovery of a supernova since the invention of the telescope.

And that's pretty much a complete literature review.

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So we start with basically a clean slate, in 1996, when the ASSA's Deep Sky Observing Section was established.

The Section has worked at two goals: to encourage new observers, and to provide guidance to established observers.

New observers are primarily served by two publications, and through personal correspondence. In 2000 a comprehensive observing tutorial was compiled. Roughly 30 paper copies were mailed to interested people, and at least 820 copies have been downloaded over the internet. In 2005, a naked-eye star altas, called Discover!, was created, and at least 1,240 copies have been served. So



it seems that at least somebody somewhere is reading about observing the deep sky. The challenge, however, remains to convert readers to observers.

Providing guidance to established observers has been far easier, because soon after the Section was set up, it's stalwart made her entrance, and she didn't need much guidance at all.

Magda Streicher's first deep sky publication was in 2001 with her set of observations of the Bennett Catalogue. Since then, she has logged over 2000 deep sky objects, sketching several hundred of them. She has contributed to three major publications, George Kepple's *Night Sky Observer's Guide*, Wolfgang Steinecke's *Galaxies and How to Observe Them,* and *The Bennett Catalogue*, co-authored with Jenny Kay and published by the Webb Society. Magda has also been systematically recording visual asterisms and is part of the Deep Sky Hunters collaboration who have an interest in discovering such objects.

Magda told me that in the years ahead, she will attempt a visual survey of Henize's Magellanic Cloud objects, in addition to ordinary deep sky observing and continued double star work. When old age gets the better of her, she said, she will finally turn her telescope onto the Moon.

There have been other observers besides Magda, believe it or not. Since 2000, when the ASSA began awarding merit certificates, several others have earned recognition for their efforts. These include Tony Jones, Ronel du Preez, Gerrit Penning, and more recently, Carol Botha, Richard Ford, and Gary Lillis.

Their observations, along with those of my own, form the basis of an extensive corpus of visual observations. A long-term goal of the Section used to be the compilation, in book form, of a definitive guide to southern-hemisphere objects. One motivation for this was the northern-hemisphere bias in the available publications. To this day, books on southern-hemisphere deep sky objects – with the exception of Hartung's well-known work – are by northern-hemisphere observers.

During the first ASSA Symposium, held in Cape Town in 1991, I demonstrated a planetarium programme I'd written for the PC. Called DOC – for Deepsky Observer's Companion – it did pretty much what you'd expect: plotted star charts, overlayed cometary positions, displayed double star orbits, showed the



solar system in 3D, and allowed the user to plan and log deep sky observations.

In the meanwhile, the internet has become a readily-accessible public resource, making it more sensible to produce an online resource. Thus, DOC is getting an upgrade. It isn't quite Web 2.0 because it has a lot of content. So, at this, the 8th ASSA Symposium, I'm pleased to be able to give you a first-look at how things currently stand. But before I end off with a walk-through of the DOC website, two other points need to be highlighted.

The first is the digitization of old deep sky publications. Before the regular use of photography in astronomy, sketching was the accepted scientific method for recording observations. Many of these old publications are difficult to come by, yet the meticulous sketches remain as valuable today as they were when they were first published, at least to visual observers. Its important here to recognize that the eye-brain's superior dynamic range gives a much different impression of objects compared to their photographic image. The plan is to digitize as many of these sketches as possible, and make them freely available to modern-day observers. Often, the text of these articles are also of interest, and the copy will be added where sensible.



To date, forty-three such publications have been captured.

In a related vein, several hundred glass photographic negatives, taken with the Radcliffe telescope from 1948 to 1950, have been digitized. Its hoped that the entire Radcliffe collection will eventually be available electronically. Further, photographs taken at the Cape Observatory from the late 1890s to early 1970s, are also in the queue to be processed.

That sums up the recent activities of the Section, so now I'd like to quickly demonstrate the reincarnation of DOC as a web-based application.

