Observations of the Great Comet of 1882,

made at the Litchfield Observatory of Hamilton College.

[Hierzu eine Steindrucktafel.]

The following positions were determined with the filar-micrometer, power 270, and illuminated wires. The differences between star and comet are corrected for refraction.

1882	M.T.Ham.C.	$\Delta\alpha$	$\Delta\delta$	Comp	α app.	$\log p.\Delta$	δ app.	$\log p.\Delta$	*
Oct. 21	$17^h\,34^m\,9^s$	$+\,0^m38^s.57$	$-\,2'\,51''.6$	5	$10^h\,10^m$ —	9.4451$_n$	$-\,15^\circ\,58'$ —	0.8558	1
24	17 12 8	$+\,0\;45.18$	$-\,3\;24.3$	10	10 6 $25^s.79$	9.4619$_n$	$-17\;6\;48''.6$	0.8577	2
27	17 9 8	$-\,2\;17.14$	$+\,2\;44.5$	3	10 2 6.25	9.4330$_n$	$-18\;14\;30.9$	0.8654	3
30	17 2 10	— 53.89	$-\,0\;44.6$	10	9 57 35	9.4109$_n$	$-19\;20\;40$	0.8718	4
Nov. 3	17 6 50	$-\,8\;45.47$	$-\,0\;18.5$	5	9 51 4.10	9.3290$_n$	$-20\;47\;28.2$	0.8841	5
5	17 2 28	$+\,4\;13.14$	$-\,1\;17.9$	6	9 47 37.68	9.3049$_n$	$-21\;29\;39.1$	0.8882	6
10	16 37 52	$+\,1\;31.63$	$-\,1\;15.3$	2	9 38 19.83	9.2927$_n$	$-23\;11\;36.3$	0.8945	7

Mean Places of the Comparison Stars.

*	α 1882.0	δ 1882.0	Authority
1	$10^h\;9^m55^s$	$-15^\circ\,55'$ —	9^m, undetermined
2	10 5 38.07	$-17\;3\;14''.6$	AOe_2 10429·30
3	10 4 20.77	$-18\;17\;5\;9$	AOe_2 10413
4	9 58 27	$-19\;19\;50$	9^m, undetermined
5	9 59 46.75	$-20\;47\;0.3$	9^m, determined by fil.-micr. comp. with AOe_2 10378
6	9 43 21.61	$-21\;28\;12.4$	BB. VI pag. 349 Nr. 108
7	9 36 45.11	$-23\;10\;12.3$	AOe_2 10037-8

Notes and remarks on the aspect of the comet.

At a first look through the telescope (employing a low power) the head of the comet revealed a long and narrow bright straight line, which one easily might be tempted to call the nucleus, and which indeed by a great number of observers has been held for such. But this is a mistake. For recognizing the distinctive parts, it is well to compare several individuals, to apply the same method of comparative anatomy, which is used in branches of natural history. In a normal type of a larger comet, when at a certain state of development, is seen prominently shining the nucleus *n*, (Fig. 1), fiery, usually of a reddish hue. It is situated centrally at the concave edge of an envelope *eee*, that surrounds, more or less symmetrically, the nucleus for more than a semicircle from the side of the sun. Outstreaming from the nucleus into the interior of the envelope we observe one or more bright jets *iii*. These jets are usually curved, and, in case there are several envelopes, never seem to surpass the innermost one of these, but bend short as if meeting a resistance when coming near the outline (level surface) of it, in the same time showing here an accumulation of brightness, which to the envelope sometimes gives a fanlike appearance. — Besides envelopes and jets there appears occasionally, and only in some comets (for example, in the comet of 1861), an appendix *b*, extending from the nucleus backwards in the direction of axis of tail, straight, and which, for brevity's sake, from its resemblance we will call a brush.

I will now describe how I saw the comet on Oct. 21. The description fits as well the appearance on Oct. 20, though on that day no measurements could be taken and no particular sketches were made. Also on the days following the aspect was nearly the same with but slight changes. — As the comet is rising higher and higher out of the denser strata of the atmosphere near the horizon, and stronger magnifying powers can be used, envelopes become more and more conspicuous, so that shortly before twilight 5 or 6 of them are counted. On looking along the concave outline, which is very faint, of the innermost envelope, until where it joins the prominent bright linear light of the head, a neatly defined round disk or globe is discovered, of a pale yellow straw color, in diameter about 5″, viz. a little less than the width of the bright line. Its situation in regard to the envelope as well as its uniform, not hazy, light shows that this is the real nucleus. It divides the bright line into two unequal parts. The part directed towards the sun, reaches to the vertex of the

innermost envelope (and no farther), its light increasing here in intensity, as if forming a bright top, though but little broadening the line. The length from nucleus to top, or the extent of envelope, measured 25″. The other part, directed in axis of tail, had the length of 80″; at distances there were in it some illy defined nodules or agglomerations of light, and it terminated brushlike. Clearly we have therefore here, as in the normal type, nucleus, jet and brush, — with these peculiar features: that the nucleus is very small (exhausted?), that the (single) jet forms a straight line with the brush, and that the latter is uncommonly long. Fig. 2 exhibits a sketch of the head of the comet Oct. 21. The position angle of the bright line formed by brush and jet, at 17^h25^m, was $253°46'$, counted from N through W; at the same time the (computed) angle at comet of sun was $267°57'$. — On Oct. 24, at 17^h10^m, with pretty bright moon, but very fine sky, the position angle of the bright line was found to be $252°30'$, while the (computed) direction from comet to sun was $266°36'$.

With the beginning of November the nucleus, which hitherto had been a very neat object for sharp pointing, allowing almost as accurate measurements as a fixed star, became more difficult of recognition; not that it became fainter itself, but rather because the bright (jet and brush) line was swelling in width, assuming more the form of a very oblong spheroid, and thus covered with a thicker fog the nucleus proper. The bad weather setting in after Nov. 10 prevented me from following up the comet any further. Some observers speak of a subdivision of the nucleus, or of a row of nuclei. But, these appearing as nebulosities, and no mention being made of a sharply defined disk in any of them, I am inclined to believe, that, with the exception of one, they were only agglomerations of light either in jet or in brush. The true nucleus certainly had its place, where it invariably in all comets is situated, viz. at the rear, concave, edge of the envelope, nearly in the middle. Computers of the orbit, therefore, will have to be critical in the selection of observations they employ.

The tail of the comet, which was carefully sketched on Oct. 21 (see Fig. 3), consisted clearly, as is recognized especially at its notched extremity, of two (perhaps separate) parts. The southern part is the brightest, and seems to project upon the other. It has a well limited outline, particularly on the south side, being, alike the whole tail, slightly curved, convex towards the south. The outline of the fainter part was less distinct, but at 16^h m. t. the stars 26 and 39 v^1 Hydrae appeared to be exactly on the edge. When the sketch was made, the nucleus of the comet was still in the thicker region of the atmosphere, and therefore the remarkable nebulosity seen by Schmidt at Athens, and others, around and in front of the head, escaped my attention.

C. H. F. Peters.

Constellation der Jupiterstrabanten 1883 Oct. 14.

Nach den Ephemeriden des Nautical Almanac sollte Oct. 14 für einen Zeitraum von 19 Minuten der Jupiter ohne Monde sichtbar sein, da der dritte Trabant 16^h27^m (m. Z. Strassburg) vor die Scheibe des Jupiters treten, während 16^h46^m der erste Mond hinter derselben hervorkommen und der vierte dieselbe verlassen sollte. Bei der Seltenheit des gedachten Phänomens wollte ich trotz des grössten Theils dunstigen und bewölkten Himmels wenigstens einen Versuch machen, dasselbe zu betrachten, und richtete deshalb um 16^h15^m etwa den kleinen Refractor auf den Jupiter, welcher durch Dunst hindurch mit dem Satelliten III eben noch zu sehen war. Ehe der letztere jedoch auf die Scheibe des Jupiters getreten war, verliess Trabant IV dieselbe, so dass etwa drei Minuten lang beide Monde gleich gut zu sehen waren. Der Satellit IV trat also aus der Scheibe des Jupiters circa 20 Minuten früher aus, als die Ephemeride angab, so dass die erwartete Constellation gar nicht stattfand. Dichte Bewölkung verhinderte ein ferneres Beobachten.

W. Wislicenus,
zweiter Assistent der Sternwarte.

Strassburg 1883 Oct. 17.

Beobachtungen auf der k. k. Sternwarte in Prag,

mitgetheilt von dem Director derselben, Prof. Dr. *L. Weinek.*

In Nr. 2041 Bd. 86 der Astr. Nachr. sind die ungünstigen Beobachtungsverhältnisse der Prager k. k. Sternwarte zur Genüge gekennzeichnet. Jene kurze Darstellung sei hier zum Theil wiederholt, zum Theil ergänzt. Der hauptsächliche Beobachtungsraum der Sternwarte befindet sich in einer Höhe von nahe 38 Meter über dem Erdboden in der obersten Etage eines alten Thurmbaues. Man sieht mit den daselbst theils nach dem Aequator, theils nach dem Horizonte montirten Instrumenten nicht zum Dache, sondern zu vier Thüren hinaus, welche nach den Cardinalrichtungen N, O, S, W situirt sind und je eine Höhe von nahe 4 Meter, eine Breite von 1.6 Meter besitzen. Eine besondere Fundirung für diese Instrumente existirt nicht; sie stehen sämmtlich auf einem Holzfussboden, welcher von zwei rechtwinklig über einander liegenden Systemen starker Balken gebildet wird. Das Hauptinstrument