Answer to Sir John Herschel's letter       |No 4|

[I beg to acknowledge your letters of the 10th & 13th. If you will permit me I should like to send the Athenaeum[2] to M. Comte as from yourself, *with a copy of your last note*,[3] which I think would be more agreeable to him, or to any man, than the direct communication of your animadversions could be disagreeable.]

The question raised by your criticism on M. Comte appears to me, I confess, to be one which a mere reference to his book would decide. It is simply this. In saying (as he does) that a theorem compounded of Huyghens' & Newton's laws leads directly to the law of Kepler, does he represent <u>this</u> as a verification of the nebular hypothesis ? In your address you say he does. I continue to think that if you refer again to his book you will see that he does not, & moreover that he does, elsewhere, represent that same logical sequence, as a verification not of the nebular hypothesis, but of the law of gravitation.

What may be the value of what he <u>does</u> bring forward as a numerical verification I cannot pretend to say; I am not acquainted with what he has written expressly on the subject; & if I were, it would become me to express myself much more modestly on that question. The verification would of course consist in the agreement of the periodic time of each planet, with what would be the period of the sun's revolution if it were suddenly expanded so as to touch the planet. For computing that period the elements would be, the present period of the sun's rotation, the sun's equatorial radius, the mean distance of the planet from the sun, and —— Kepler's law. Therefore I presume that M. Comte <u>must</u> either prove or assume ( as stated in your letter ) that Kepler's law applies to the successive states of the sun itself, & not merely to the planets when detached from it. On what grounds he does so, his own dissertation must shew.

Admitting however the impossibility of proving the proposition stated in your letter, still it cannot be considered a mere arbitrary assumption; & if it can be shewn that the present rotation of the sun takes place in the same time in which it <u>ought</u> to take place supposing that proposition <u>and</u> the nebular hypothesis to

be true, would not that be of considerable weight as an additional
argument in favour of the nebular hypothesis？A proof, it would not
be; but M. Comte, you will observe, distinctly disclaims the
pretension of having <u>proved</u> the hypothesis.

And now, without troubling you further on this subject, permit
me to say, that I thankfully accept your offer[4] with respect to
my own book. I am well aware that any one, not a mathematician
by profession, is likely in going over such a field as I have done,
to have committed many such errors as those you propose pointing
out; & for myself, though I formerly went quite through the
usual course mathematics & its applications, & have
occasionally revived my recollection by recurring to parts
of it, I do not pretend to have retained any accurate memory
of more than the outline. I have therefore always hoped that
if my book had any success, some of those who possess the
requisite knowledge would take the trouble to free it from
errors of this description, & I shall endeavour to profit
to the utmost by every indication you may give.
14 July 1845


注 1　宛先：Sir J. F. W. Herschel Bart. / Collingwood / Hawkhurst / Kent. 消印：W / PAID
/ 14 JY 14 / 1845, and STA ... HURST / JY 15 / 1845.王立協会所蔵自筆書簡、7 月 16 のハ
ーシェルの返書も同じ。
[2　先の書簡、注 3 を見よ。]
[3　ハーシェルがミルに、『アシニーアム』*Athenaeum* をコントに送付する際に自分の名
前を挙げないよう要請した 7 月 13 日の書簡。「いかなる場合でも、不運にも彼をして、言
及したそのとおりの言葉（ipsissima verba）の所有者に早くからしてしまうことなく、著
者の著作について言及することはきわめて不当なことであると私は考えております。しか
も、個人的性質に関して不必要に攻撃するものであってはなりません。」（In all such cases
I consider it highly unjust to remark on the writings of an author unfavorably without
putting him early in possession of the *ipsissima verba* of the remarks, but then it should
be so done as to give no unnecessary offence of a personal nature.）］
4　7 月 10 日の書簡においてハーシェルはミルの『論理学』の話をして次のように記した。
" the general high opinion I have formed and expressed of it in a philosophical point of
view" but thought "the least felicitous portions of it, those in which points of physical
science and mathematics are touched upon. I should have no objection if you desired it

to specify some particular instances which have occurred to me inter legendum to which this remark applies. ..."