

through material media, etc.

The point is discussed about
internal stress on the edg theory
was I find debated by Helmholtz
against Ostrograd, Riecke, Herwig
etc. and occupies some hundred
of pages in his collected papers.
I have not found in it any ground
to change my views: I derive the
impression that Helmholtz's side
is always climbing down towards my
view of that matter. Your critical
case of a straight current in the
field of a ring magnet was thrown
at his head by Riecke in 1876.

Yours ever
Hermer

24/26

ST JOHN'S COLLEGE,
CAMBRIDGE.

22. iii. 95

Dear FitzGerald

I have got out my theory
of dispersion. The indications of
§§ 122, 3, 4 lead in the most
direct and unambiguous way
to the system of Helmholtz's
theory (Wied. Ann. 1893), I cannot
make out how far he
established his system, or how
far he surpasses them: as in
the most important case he
gives no reasons. And one of

his German disciples, Rieff,
blundered all over the field in
trying to pass Fresnel's formulae
§ 124 from the formulae of
his theory.

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MacCullagh's dispersion
theory must be put aside for
reasons similar to § 123. There
are 1000 molecules to the
wave length so that a statistical
theory would give only an
exceedingly small dispersion: if
there were 50 instead, the
statistical theory would suffice:

as it is, the statistical part is
negligible in comparison with the
part due to sympathetic
vibration of the ^{systems of} electrons i.e. molecules.

Further, rotatory quality
in quartz, $\mu_{\text{exp.}}$ vs. $\mu_{\text{stat.}}$ is statistical,
and we see the reason why its
amount is so small in all
cases.

The method of selections
permits to be a very direct
clue to all sorts of molecular
electric phenomena, conduction,
Thomson effect, Hall effect
mechanical forces in radiation