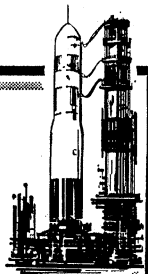


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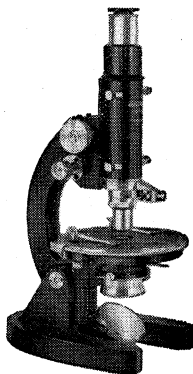
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ume when funds, space, and availability
permit. A thorough "search of the
literature" is still a good safeguard
against expending research funds on
work which has already been reported
elsewhere. If the fast-aging journal is
discarded and its citations are not
blended into any subsequent studies,
what is to prevent the research it has
reported from being done over again?

Actually, there appear to be two
evaluations involved in the information-
knowledge process. The first is editorial
—whether to accept or reject a manu-
script; the second is documentary and
may occur years after the publication of
the paper. The paper's research impact
is then measured as a weight factor in a
citation study. Its scientific durability
may then be impartially assessed. I
suggest reference to the paper by Raisig
on "Mathematical evaluation of the
scientific serial" [*Science* **131**, 1417
(1960)] for one recent, improved means
of making this evaluation.

JOHN BUCKLEY

Yale School of Nursing,
New Haven, Connecticut

Stern's View of Lewis H. Morgan

In a recent issue [*Science* **131**, 1435
(1960)] you published a review of Carl
Resek's *Lewis Henry Morgan, Ameri-
can Scholar* in which the reviewer, com-
paring Resek's work to that of my late
husband, Bernhard J. Stern, states that
"in Stern's hands, Morgan, caught in a
crossfire of Marxism and Boasian anti-
evolutionism, suffers the worst of both
worlds and emerges as a virtual class
enemy as well as a 'not erudite,' unorigi-
nal thinker with a few good ideas and
more bad ones."

Not only is this estimate of Bernhard
J. Stern's *Lewis Henry Morgan, Social
Evolutionist* (University of Chicago
Press, 1931) intemperate and lacking
in scientific objectivity but it is totally
erroneous.

Since Stern's book is out of print,
may I request that you set the record
straight by publishing some of his
evaluations of Morgan. In the final
chapter summarizing Morgan's contri-
butions, he says:

"Pioneers in unploughed fields of
science scrape the soil thinly leaving
the more intensive work to be done by
generations that follow. They may plant
some seeds of thought that later prove
infertile, for their knowledge of the
character of the field is imperfect.
Morgan was such a pioneer. He was
among the first to extend the science
of social origins into the remote past.
In doing so he used an evolutionary
method popular in his period but since
discarded as applied to the study of
culture. Divorced from its evolutionary

setting much of Morgan's work remains
a permanent contribution to the yet
infant science of anthropology. His
Iroquois study is still considered a clas-
sic. His discovery of the kinship sys-
tems was epoch-making and irrespective
of his interpretations and his arrange-
ment, his compilation in the field has
proved to be a lasting storehouse of
fact for all later anthropologists. . . ."

CHARLOTTE C. STERN

423 West 120 Street,
New York, New York

Sweating in Man

Victor Cummings [*Science* **131**,
1675 (1960)], in his article on thermo-
regulatory and emotional sweating in
man, is apparently unaware of the
careful work of Chalmers and Keele
[*J. Physiol.* **114**, 510 (1951); *Brit. J.
Dermatol.* **64**, 43 (1952)], who demon-
strated that neither type of sweating
is blocked by an intradermal adrenergic
blocking agent but that both are blocked
by atropine; these results are essentially
identical with Cummings'.

It is unfortunate that Cummings
raised again the specter of adrenergic
innervation of human sweat glands
without presenting a more forthright
analysis of the available evidence which
tends to put the ghost to rest. The perti-
nent points, covered in the review of
Randall and Kimura [*Pharmacol. Revs.*
7, 365 (1955)] except where noted,
are as follows.

1) Human sweat glands respond to
directly administered epinephrine and
related compounds, and to acetylcho-
line. Both substances act on the same
glands [Mellinkoff and Sonnenschein,
Science **120**, 997 (1954)].

2) The response to exogenous epi-
nephrine is blocked by local or sys-
temically administered adrenergic block-
ing drugs (for example, dibenamine).

3) Emotionally induced sweating is
blocked by systemically administered
dibenamine, but not by locally admin-
istered dibenamine; it is blocked by
locally administered atropine.

4) Dibenamine analogs have been
shown in other circumstances to have
central blocking activity [Sawyer and Par-
kerson, *Endocrinology* **52**, 346 (1953)].

The simplest and most likely ex-
planation of these observations is that
there is no adrenergic innervation of
human sweat glands and that adrenergic
blocking drugs reduce sweating only
by their central blocking action. The
question of the physiological signifi-
cance of the responsiveness of the
glands to directly administered epineph-
rine remains open.

RALPH R. SONNENSCHN

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