which persists for days."[3] In view of more recent work,[4,5] it is very doubtful if any one familiar with the literature would now support Baker in this.

"Menzies expected a greater vapor pressure difference near 0° C. than at 25° C. in spite of the fact that 0° C. is the triple point at which the vapor pressure of ice (almost 100 per cent. trihydrol) and water (37 per cent. trihydrol) are the same (*i.e.*, both 4.579)."[6] What Menzies said[7] was: "In the hope of favoring the persistence of polymerized molecules, the bath in another experiment was maintained at 3.5° C." This hope, not justified by the experimental result, of detecting non-equilibrium values is regarded as not unreasonable by T. C. Barnes himself when he writes: "It is possible that the equilibrium concentration of hydrols in ice water is not instantaneous."

"Menzies previously claimed that water vapor contains no polymers, but this was corrected by Maass and Mennie."[8] These authors state: "It is worth noting that a similar figure is obtained from Menzies' data, if the Clausius-Clapeyron equation be accepted as the more reliable of his methods." As these words indicate, Menzies employed two distinct methods for evaluating the density of water vapor from experimental data taken from the literature. Because the two results were discordant, Menzies drew especial attention to this "notable discrepancy that requires explanation."[9] The excellent work of Maass and Mennie tends to confirm the higher density value (at 73°), and is in harmony with their suggestion of the presence of polymers (dihydrol) to the extent of about one half of one per cent. at this temperature; while the discrepant values computed by Menzies, if averaged, would point to a proportion of polymers negligibly small. In either case, it is difficult to see the relevance of slight association of water in the vapor phase to the present discussion.

There is no *a priori* reason why the positive results by the biological method reported by Barnes may not be correct, for the biological method can be incomparably more sensitive than many of the physical methods. Those of us who have used physical methods with negative results are obliged to report them as they are, although positive results would doubtless have had greater interest because of their very abnormality.

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[3] T. C. Barnes, *loc. cit.*
[4] West and Menzies, *Jour. Phys. Chem.*, 33: 1893, 1929.
[5] Wright and Menzies, *Jour. Am. Chem. Soc.*, 52: 4699, 1930.
[6] T. C. Barnes, *loc. cit.*
[7] Menzies, *Jour. Am. Chem. Soc.*, 43: 851, 1921.
[8] Maass and Mennie, *Proc. Roy. Soc.*, 110A: 198, 1926.
[9] Menzies, *loc. cit.*

LINES OF NEUTRAL SULFUR IN PROCYON

IN connection with the recent paper on S I in the spectrum of the sun by Miss Moore and Babcock[1] the following results obtained from measurements of stellar spectra may be of interest. Three lines measured in Procyon at λλ 6743.52, 6748.69 and 6757.25 can be satisfactorily identified with laboratory lines of neutral sulfur. The first is barely visible, but the other two are quite definite.

Through the kindness of Dr. Morgan, I have been able to examine a three-prism spectrogram of the same star in the ordinary photographic region. Three stellar lines agree with the laboratory lines of sulfur at λλ 4694.13, 4695.45 and 4696.25. These three lines were also measured by Dunham[2] in α Persei but were not identified by him.

The three red lines observed in Procyon are definitely absent in Arcturus, Aldebaran and Betelgeuze, nor can they be seen with certainty on my plates of the sun. However, Miss Moore and Babcock have shown that they are actually faintly present in the sun. This behavior of the lines is entirely consistent with their excitation potential of 7.8 volts.

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ADDITIONAL TRIASSIC DINOSAUR TRACKS FROM PENNSYLVANIA

LAST year W. O. Hickok and the writer reported an occurrence of dinosaur foot tracks in the Triassic red beds near Yocumtown, Pennsylvania.[1] Two species, each belonging to a different genus, were identified. These are *Anchisauripus sillimani* (E. Hitchcock) and *Grallator tenuis* E. Hitchcock. Two additional discoveries have subsequently been made. These are significant because, first, they are new localities for a kind of fossil comparatively rare in Pennsylvania; and, second, they extend the known geologic range of Triassic dinosaurs in the state.

The Triassic of south-central Pennsylvania consists of two formations with subdivisions, thus:

Newark Group (Upper Triassic)	
Gettysburg formation	16,000 feet
Arendtville fanglomerate	
Heidlersburg member	
Lower shales	
New Oxford formation	7,000 "

These beds are more or less closely equivalent to the type Newark series of New Jersey. The Yocumtown tracks came from a zone near the middle of the Gettysburg formation in beds of alternating red shale and sandstone. More precisely they may be thought

[1] *Astrophysical Journal*, 79: 492, 1934.
[2] Contributions from the Princeton University Observatory, No. 9, 1929.
[1] W. O. Hickok and Bradford Willard, "Dinosaur Foot Tracks near Yocumtown, York County, Pennsylvania." *Proceedings, Penna. Acad. Sci.*, Vol. vii, pp. 55–58, 1933.