Examiners at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

THE Central Scientific Company, Chicago, invites applications in chemistry or mathematics or both, for the Cenco Industrial Fellowships, with stipends of $1,200. Two fellows, and possibly three, will be selected from the applicants. Preliminary selection will be made on the basis of replies to questionnaires, scholastic standing and recommendations. The final selection will be made by examination and interview. Fellows will be under the supervision of the director of research and development, but will be given experience in other departments of the company. Application blanks may be secured on request from Dr. M. N. States, Central Scientific Company, 1700 Irving Park Road, Chicago, Ill.

DISCUSSION

NOTE ON AN ERRONEOUS STATEMENT CONCERNING PRE-NOVA STARS

IN reading a recent popular book the writer encountered a surprising statement which is indicative of the wide-spread misinformation about the pre-outburst condition of novae. Taken by itself the statement may seem very trivial, but its implications are so far-reaching that it can not be allowed to pass. It has happened too often in the history of science that an eminent authority has given misinformation which, because of the weight carried by the author's name, has been passed on from one text to another for decades. The repetition of such occurrences can be avoided only if those who notice them take it upon themselves to expose the errors mercilessly, instead of tolerantly passing them by as just a few incorrect statements among thousands of correct ones.

The offending paragraph occurs in "The Birth and Death of the Sun," by Professor George Gamow. In regard to the pre-nova state he writes on page 182:

> Only in the case of Nova Herculis, which flashed on the northern sky in mid-December, 1934, had the spectrum been photographed occasionally before the explosion. And the spectrogram reveals that before the explosion this star was not much different from any other star of the main sequence. In fact, its absolute luminosity and its spectral characteristics were very close to those of our Sun. Does this mean that our Sun is also destined to burst in a not very distant future?

There are two errors here. In the first place, the lone nova whose spectrum was observed before outburst was not Nova Herculis, but Nova Aquilae 1918. Secondly, the faint spectrum observed was *definitely not* of solar type. According to Miss Cannon,[1] it could not be classified, but was surely of "early" type, since the energy distribution of the continuous spectrum resembled that of class B or A.

On the correctness or incorrectness of statements concerning the pre-nova condition of stars hinges the important question of the cause of the nova outburst, as well as one of great popular interest, *viz.*, whether the sun will some day become a nova. The remark that the pre-nova star "was not much different from any other star of the main sequence" definitely conveys to the reader the idea that normal well-behaved stars become novae. This is a rash generalization to make, and indeed there are good observational grounds for believing that such a view is incorrect.

It is worth while to seek out the origin of the errors made by Professor Gamow. The misidentification of the nova was probably just a confusion which arose in remembering a large number of facts, and it is the less important of the two errors. The incorrect statement concerning the spectrum is pretty surely to be traced to a number of conjectural statements which were published concerning Nova Herculis. Thus, Grotrian[2] refers to it as a dwarf star of about class K 5. But this is merely an adoption of a similar statement made by Beileke and Hachenberg.[3] And these authors in turn quote Guthnick[4] as authority for their statement. Just which of these sources gave Professor Gamow his "facts" is not important. The thing that is of importance, in the writer's opinion, is that *a conjecture or pure assumption has been passed on as if it were an established fact.* May we now expect that for years to come, Gamow will be quoted as authority for the statement that stars in the pre-nova state have characteristics practically identical with those of the sun? I hope not!

The full discussion of this question of the nature of the pre-nova star will be published elsewhere. There are good reasons for adopting as a working hypothesis[5] the idea that the pre-nova stars are practically identical with the post-nova objects: sub-dwarfs of visual absolute magnitude +4, bolometric absolute magnitude 0, temperature 40,000 to 50,000°K, radii of order 0.1 ⊙ to 0.2 ⊙, and densities of order 200 ⊙. They are

[1] *Harvard Annals,* 81: 179, 1920.

[2] *Zeitschrift für Astrophysik,* 13: 217, 1937.

[3] *Zeitschrift für Astrophysik,* 10: 372, 1935.

[4] *Naturwiss.,* 23: 249, 1935.

[5] *Cf.* Biermann, *Zeitschrift für Astrophysik,* 18: 344, 1939.

definitely too luminous and not sufficiently dense to be considered true white dwarfs.[6]

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SOUTHERNMOST GLACIATED PEAK IN THE UNITED STATES

SAN GORGONIO PEAK[1] (elevation 11,485 feet, Latitude 34° 6′ N.) in southern California has been considered the southernmost glaciated peak in the United States.[2] It is not generally known that a more southerly glaciation occurred on Cerro Blanco (elevation 12,003, Latitude c. 33° 23′ N.) in northern Otero County, New Mexico. Although Stone[3] was unsuccessful in seeking evidences of glaciation in the Sierra Blanca range, Ellis[4] later reported finding a cirque and hummocky morainic deposits on Cerro Blanco, highest peak in the range, and Antevs[5] independently suggested the probability of glaciation on the basis of observations made with field glasses some distance from the peak.

Since the southern limit of glaciation has important climatic, geomorphic and ecological implications, the writers undertook to ascertain the status of glaciation on Cerro Blanco, and, in August, 1940, ascended the peak from both the southeastern and northeastern sides. A single well-developed cirque was found on the peak and occurs on the northeastern side. From the cirque a steeply sloping glaciated valley more than half a mile in length leads down toward the north fork of Rio Ruidoso. Well-defined moraines are present, and there is a pro-talus rampart within the cirque. These facts establish Cerro Blanco as the southern limit of mountain glaciation in the United States.

All the glacial features are fresh and essentially unmodified save by frost weathering, thus indicating Wisconsin age for the glaciation. The complexity of the Wisconsin Stage of glaciation, already reported for the Southern Rocky Mountains,[6] is indicated also by the glacial deposits on Cerro Blanco.

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[6] *Cf.* Humason, *Astrophysical Journal*, 88: 228, 1938.
[1] H. W. Fairbanks and E. P. Carey, SCIENCE, 31: 32–33, 1910.
[2] N. M. Fenneman, "Physiography of Western United States." New York: McGraw-Hill Book Co., pp. 498–499, 1931.
[3] G. H. Stone, SCIENCE, 14: 798, 1901.
[4] R. W. Ellis, *New Mex. Univ. Bull.*, Geol. ser., 5: 1, 24–25, 1935.
[5] E. Antevs, *Proc. Acad. Nat. Sci. Philadelphia*, 87: 306–307, 1935.
[6] L. L. Ray, *Bull. Geol. Soc. Amer.*, 51: 1851–1918, 1940.

A SUGGESTION FOR THE MAINTENANCE OF SCIENTIFIC ILLUSTRATIONS

DURING the past year various technical publications have announced their inability to retain the blocks, electroplates, etc., used in illustrating their papers (in the case of two entomological journals this year). For the most part, these blocks were to be destroyed, not because of lost value but because the society sponsoring the publication was unable to afford the space necessary for storage of this material.

It has been my fortune to sort through the accumulated illustrations of one of these journals, and most of the material seen would be very difficult to duplicate; some of it could not be duplicated at all. A great many of these plates and blocks would be used again were they available to authors throughout the country. A number of the illustrations are not available in print; I had tried fruitlessly to secure an old copy of a certain paper for several months and had decided that there was no available copy to be had. When I sorted these blocks I discovered the perfect, original electroplates of this paper. It would certainly cost but little to have several copies of these plates printed. So there exists, I believe, a sound reason why these plates should be kept, even if the authors do not claim them.

It would be much to the credit of the country to preserve this expensive and valuable material rather than permit it to be melted for scrap. It is not impossible to collect all the valuable accumulated plates in some central library and make them available, on loan, to authors or to people who wish to reproduce them for study, etc. Could not the Library of Congress or some other responsible institution be persuaded to keep these plates resulting from the nation's private research?

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CATALOGUES OF CURRENT SCIENTIFIC LITERATURE

IN his recent article, on "The Distribution of the Periodical Literature of Science,"[1] Dr. Atherton Seidell suggests, as a plan to acquaint research workers with the current literature, "the publication of current classified catalogues of the titles of papers appearing in scientific periodicals." For entomological literature, such a plan has been in operation in *Entomological News* (published by the American Entomological Society, at the Academy of Natural Sciences, Philadelphia) since 1890 with few interruptions. The

[1] SCIENCE, 93: 2402, 38–39, January 10, 1941.