thick) or a deparaffinized section (10 μ thick), which has been fixed to a slide with a collodion film, with a small drop of substrate medium. Place a hanging-drop slide over it so that the drop is enclosed in the chamber formed by the depression. The drop should not touch the chamber walls at any point. Invert the slides, leaving the section covered by the hanging drop. For digestion periods longer than 4 hours it is necessary to seal the edges of the two slides with vaseline to prevent appreciable evaporation. Place in a 37° oven for the time indicated below:

Wheat kernel, frozen sections: embryo, 15–30 min.; aleurone cell region, 5–10 min.
Wheat kernel, paraffin sections: embryo, 2 hrs.; aleurone cell region, 1 hr.
Heart tissue, frozen sections: 2 hrs.
Heart tissue, paraffin sections: 18–24 hrs.

If vaseline was used, remove with benzol, and wash sections with 3 changes of distilled water. (In the case of alkaline ATPase, place in 1 per cent. $Pb(NO_3)_2$ for 15 minutes at this point, to convert the calcium phosphate to lead phosphate, and wash well in distilled water.) Dip into 2 per cent. acetic acid and rinse thoroughly with distilled water. Place in 2 per cent. ammonium sulfide for 2–3 minutes, wash with several changes of distilled water, dehydrate in 95 per cent. alcohol for 2–3 minutes followed by absolute alcohol for 5 minutes, clear in oil of thyme for 3–4 minutes, treat briefly with 3 changes of xylol, and finally mount in balsam.

Essentially the same procedure has been successfully adapted to the demonstration of glycerophosphatase and thiamine pyrophosphatase in sections of wheat kernels and sprouts. These studies, in addition to those on ATPase, as well as similar ones on other phosphatases in wheat, will be reported in detail elsewhere.

SUMMARY

A method has been described for the histochemical localization of acid and alkaline ATPase in plant and animal tissues respectively. A hanging-drop technique has been developed that permits the use of a minimum of substrate, *i.e.*, one small drop for each tissue section. ATPase in wheat was demonstrated for the first time.

DAVID GLICK
ERNA E. FISCHER

RESEARCH LABORATORIES,
RUSSELL-MILLER MILLING COMPANY,
MINNEAPOLIS, MINN.

DISCUSSION

THE EFFECT OF MOTION PICTURES ON BODY TEMPERATURE

IN SCIENCE for September 7, 1945, Dr. R. Barrington Brock, of Croydon, England, offered two items of criticism concerning my note on "The Effect of Motion Pictures on Body Temperature."[1]

(1) He wonders why "the figures show a similar rise in body temperature for all types of film," but the figures show nothing of the kind. I definitely stated that the oral temperatures on "movie" days varied from 99 to over 100° F. It was because the rise in temperature seemed related to the degree of excitement produced by the film that I suggested that the collective change in body temperature of a preview audience might be used to predict the box office success of a film. Evidently that conclusion escaped Dr. Brock's attention.

(2) This criticism rests on more solid physiological grounds—whether we are not dealing here with a "rise in body temperature occasioned by close contact with masses of other people in a confined space." That this is not the case is shown by the fall in body temperature of students who sit close together at regular university lectures. If the subject-matter of the lecture is not very interesting, and especially if the room is darkened for showing slides or scientific motion pictures, the degree of muscular relaxation and fall in temperature are often great enough to produce drowsiness and even sleep. Furthermore, in this country motion picture theatres are usually air-conditioned, and in the summer the air in them may feel unpleasantly chilly. We have found that sitting down and relaxing under such conditions produces an even greater lowering of the body temperature than occurs in a warm lecture room. However, a comparison of "movie" temperature figures for summer and winter showed no difference. This suggests that the temperature raising effect of motion pictures was sufficient to overcome the downward tendency resulting from air conditioning.

Thus, the rise in body temperature was related to the degree of excitement produced by the film and was in no way due to close contact with other people in a confined space. Indeed, I venture to predict that a comparable rise in body temperature will be found in persons who, in the privacy of their homes, have been listening for some time to a "hair-raising" melodrama over the radio or have been reading an unusually exciting book. The fact that some books act as soporifics, while others keep one widely awake long beyond the customary going-to-bed hour, is prob-

[1] SCIENCE, May 18, 1945.

ably related to the degree of muscle tension and level of body temperature induced in the reader.

DEPARTMENT OF PHYSIOLOGY, N. KLEITMAN
UNIVERSITY OF CHICAGO

"THIS IS THE ENEMY"

I HAVE just returned from a four-month tour of duty in Germany where I had opportunity to talk with a fair cross section of Germans and to visit some biological laboratories. In Munich I visited the *Zoologisches Institut* built by Rockefeller for Professor K. von Frisch. It was here von Frisch and his students investigated the problems of sensory physiology: hearing, color vision, smell, taste, "Schreckstoff" in fish; here also was produced a classic work in animal behavior, "Die 'Sprache' der Bienen," an experimental analysis of the methods of communication among bees. This Institut is badly bombed; only the first floor and basement remain intact. Professor v. Frisch's splendid library on sensory physiology and animal behavior was destroyed when his home in Munich was blasted—he had moved all his books and effects from the Institut to his residence because he believed that the residential area would not be bombed. These consequences forced him to remove his research projects and some of his assistants to his summer cottage near Salzburg, which he converted into a laboratory. Here he suffered additional losses of personal property from looting. All this was heaped upon a man who had been oppressed all these years by the Nazis because his grandmother was not "Aryan."

It was my good fortune to spend several weekends with this scientist, who, in my opinion, is one of the "greats" in biology in our day. A quiet manner, gentle humor and clarity of explanation and thought characterize him. He is continuing his research with what vigor one can muster under limited food intake. His spirit has not been crushed by the Nazis.

This case is cited to illustrate an example repeated, with minor variations, among scores of educators and research workers. Here are men and women who can still contribute richly to science. Many have carried on in spite of political oppressions—they are hungry, without shelter and without heat for their broken laboratories and homes. Their libraries have been burned and blasted.

Over the portals of Cornell University is the slogan, "Above all Nations," a fitting epitome of the international code of science. It is my opinion that those readers of SCIENCE who have acquaintances in Germany would do science, and, may I venture, world peace a great service by sending them a word of encouragement or perhaps some reprints or warm clothing.

A colleague's comment on the above note was, "Last week has brought a letter from Dr. ——— of Oslo showing what the Germans did in Norway. That is also true, but no more true than the picture you present."

ARTHUR D. HASLER
UNIVERSITY OF WISCONSIN

SCIENCE IN RUSSIA

N. A. MOROZOV, an honorary member of the Academy of Sciences, U.S.S.R., whose ninetieth birthday was celebrated a few months ago, is the author of over 150 works dealing with astronomy, mathematics, chemistry, geophysics, biology, history, meteorology and aviation. He also writes poetry, and published between 1924 and 1932 seven volumes of a projected ten-volume work on the life of Christ.

The latest issue of *Vestnik Akademii Nauk U.S.S.R.* (Record of the Academy of Sciences U.S.S.R.) received in this country is No. 10 for 1944. It is devoted entirely to the achievements of the president of the Soviet Academy of Sciences, V. L. Komarov, professor of botany at the University of Leningrad, on the occasion of his seventy-fifth birthday and the fiftieth anniversary of his scientific work. A number of articles describe his activities as the leader and organizer of the Soviet scientific activities and the outstanding botanist of U.S.S.R. The flora of the Far East are the main object of his studies. In 1934, after a number of travels through Siberia, Yakutia, the Far East, Trans-Caucasia, Finland, etc., he undertook a systematic survey of all plants growing on the territory of the U.S.S.R. This is entitled "Flora of the U.S.S.R." It is published in twenty volumes, of which eleven volumes have already appeared.

The Academy of Sciences, U.S.S.R., honored on April 25 the memory of A. S. Popov (1859–1905), the Russian inventor of radio. On November 20, 1894, Popov demonstrated his apparatus to the Russian Physico-Chemical Society. However, April 25, 1895 (May 7 according to the new style calendar), is regarded as the date of his invention, because on that day he presented a paper entitled "The Reaction of Metallic Powders to Electromagnetic Vibrations," to the Physico-Chemical Society. In January, 1896, he demonstrated his radio receiver to the Kronstadt Division of the Technical Society. The distance across which the transmission of the signals could be made was increased by Popov in the spring of 1897 to 640 meters from a ship afloat to a station on shore. Subsequently, in 1899, Rybkin achieved radiotelephone transmission across a distance of about 45 km.

Marconi applied for a patent in Italy on June 2, 1896, and in Russia in December, 1897. His application was denied in Russia.

J. G. TOLPIN
UNIVERSAL OIL PRODUCTS COMPANY,
CHICAGO