gave better buffering and the assumption is that the pH of the digest never reached the optimum so that an apparent inhibition resulted. These authors state that the pH optimum was at 7.8, the pH at which they worked, but this is not in agreement with the results of Berger and Peters,[6] who found, with three different buffer systems, that the peptidase of the chick embryo had a pH optimum at about 8.5. The latter agrees well with the more alkaline pH optimum of the salamander dipeptidase.

Failures to detect hydrolysis of the d-isomer in racemic mixtures would result from the more rapid hydrolysis of the l-isomer which, when completely split, would carry the pH of the digest beyond the optimum so that continued slow hydrolysis of the d-isomer would be prevented. It is evident that conclusions with regard to the hydrolysis of d-peptides must not be based on the results of hydrolysis of racemic mixtures, a fact that has been overlooked by many authors, including myself.

GRACE E. PICKFORD

OSBORN ZOOLOGICAL LABORATORY,
YALE UNIVERSITY

U. S. TEXT-BOOKS FOR STUDENTS IN LATIN AMERICAN UNIVERSITIES

PRESENT SITUATION

MOST texts used for advanced study are French and Spanish, despite the expressed desire of many professors to use United States texts. Texts in English from the United States are not used because the texts are too expensive; the 5 to 1 ratio of exchange, with Mexico for example, makes an imported text there cost 25 pesos that costs 5 dollars in the United States. The texts referred to are mostly those used in such small numbers by advanced classes in specialized subjects that a Spanish translation will not pay for itself.

Yesterday I learned of one course in which the students this year at the Universidad Nacional de Mexico effectively objected to purchasing a 25 peso United States text assigned by their professor. He admitted (to them and to me) that they could not afford it. French and Spanish texts cost less in Mexico where potential volume of sales does not justify publication within the country itself of texts in specialized subjects.

Professors in Latin American universities find United States text-books superior for many courses because these books treat of American materials. For example, a botanical text from the United States in illustrating structure, physiology, etc., employs kinds of plants found in America, whereas the European texts and illustrations treat of unfamiliar kinds of plants characteristic instead of Europe and Asia.

[6] G. Berger and T. Peters, *Zeitschr. physiol. Chem.*, 214: 91, 1933.

REASONS FOR MAKING U. S. TEXTS AVAILABLE IN LATIN AMERICA

(1) Several professors in Latin America have expressed a desire for United States texts and the demand and plea is of constant growth.

(2) As already noted, some United States texts are best because they treat of American materials.

(3) Use of United States texts by Latin Americans in process of intellectual training is tremendously effective propaganda in that it brings fuller understanding of English-speaking Americans to the Latin Americans; evidence is provided of United States accomplishment in science, art and literature. This evidence needs to be placed in the record for the benefit of the many Latin Americans who heretofore have known principally of our accomplishment in material matters—typewriters, automobiles and dollars.

MEANS OF ACCOMPLISHMENT

(1) Learn precisely which text-books are desired and where and in what quantities. (2) Make these available at a cost within reach of the students for whom they are intended.

One United States professor in Mexico and Central America, and two or three in South America, by conference with university professors there, and with guidance from Cultural Relations representatives in United States Embassies, should most effectively obtain the requisite information.

The United States professors might well explain the rental system in use on campuses of some United States universities whereby for one course at a cost of only $1.00 a student has the use of a text-book which costs $7.50 new.

To make copies of these texts available at a price within reach of the Latin American students is a most worthy aim. It seems not unfair to place before the people of the United States the opportunity and responsibility for achieving this end.

Possibly no subsidy at all would be required, or at most a smaller one than at first thought would seem necessary, if Latin American students are as much interested in used copies as are United States students, many of whom obtain their copies at a fraction of the list price. Here is how the system operates:

Professor Torrey in 1941 adopted for his advanced course in biology the new text-book by the two authors Peralta and Smith. Each of 150 students in Professor Torrey's class was required to purchase a copy of the text, which cost $7.50. At the end of the course, 50 students retained their copies, but the other hundred students resold theirs to the local book-dealer at $2.00 each. In 1942, the 150 students in Professor Torrey's class rushed to purchase texts. "First come first served" is the rule. One hundred pupils purchased

used copies at $3.75 each and the 50 pupils who arrived later purchased new copies at $7.50 each. In 1943, Professor Torrey will have possibly 50 pupils in all (the other hundred are in military service or war work—I had 8 instead of 80 in an autumn class) and the campus book-dealer has 50 extra copies that he is glad, indeed, to sell for $2.00 each. This is about the price which can be charged in Latin America.

We (the United States) should get busy now so as to have the texts at the places where they are desired at the opening of the new scholastic year in Latin American universities.

E. RAYMOND HALL
UNIVERSITY OF CALIFORNIA, BERKELEY,
DATED AT MEXICO, D. F., APRIL 9, 1943

THE INSTITUTE OF TROPICAL AGRICULTURE AT TURRIALBA

THE news item in the March 26 issue of SCIENCE relative to the foundation of the new Institute of Tropical Agriculture at Turrialba (Costa Rica) was read with considerable interest here, as we feel that the foundation of said institute represents a definite step forward. Turrialba is also an excellent location because it is there that the U. S. Department of Agriculture Rubber Field Station, directed by Dr. Theodore Grant, is located. Thus the newly announced rubber research program of the new agricultural institute will utilize both the experience and the disease-resistant material already developed by Dr. Grant and his staff. This represents a tremendous saving in time, precisely at the moment when time is the most important consideration.

The foundation of the agricultural institute is also of great value because it will contribute to giving both scientists and government officers in the United States a truer picture of the real conditions of the American tropics. But the greatest hope that some of us long-time residents of the Caribbean area see in the foundation of the new institute lies not so much in what it can do in the way of publishing pretty bulletins and reports or even in the development of improved plant varieties; but rather in the courage which it might display in facing some of the broader problems of tropical agriculture.

Consider, for example, the problem of fuel and power: Every one who has carefully studied the agricultural economics of countries like Costa Rica inevitably concludes that the scarcity and high price of fuels constitute the greatest single barrier against a real development of the country. Regardless as to whether we talk of railroad or automotive freight-rates or about the development of small local industries, we always come back to the painful fact that the only fuel locally produced is wood-fuel and that its continued use at anywhere near the present rate will soon create a terrific problem in forest depletion, soil erosion, irregular stream flow, etc. And thus we also inevitably reach the conclusion that any honestly conducted program of agricultural conservation and development in Costa Rica must first contemplate making available large blocks of cheap hydroelectric power, in order that the people shall not only have an inexpensive source of heat to cook with, but also that electrification be applied to such things as the small farm, the small rural industry and to all railroads in the country not already electrified. Furthermore, any honest-to-goodness program of tropical sanitation will have to dispose of large amounts of cheap chlorine for water disinfection and as the means of oxidizing the harmful residues of the coffee industry. This is intimately tied up with the cost of electricity, as chlorine is a product of the electrolytic cell.

The lands acquired by the Institute of Tropical Agriculture at Turrialba are located in the middle of a region rich in waterfalls which have never been developed because of the financial limitations of the province where Turrialba is located. But we already have an example in the nearby province of Alajuela, where there is a publicly operated electric plant that was built some fifteen years ago by a German-Swiss company. This plant has not only paid for itself, but has also demonstrated that electricity may be produced in the tropics at a fraction of the cost of even the so-called "yardstick" plants in the United States, like T.V.A. Likewise, the government-owned and -operated Ferrocarril Electrico al Pacifico offers another definite example of how a relatively modest investment in electrical transportation facilities pays back a thousand-fold in the tremendous agricultural development made possible on the Pacific sector of Costa Rica.

Considering the ease with which the new Institute of Tropical Agriculture could obtain the loan of technical talent from other Federal agencies, such as the T.V.A. or the Rural Electrification Administration, and the low interest rates at which projects sponsored by the Federal Government may be financed, it seems to the writer that the new institute has in its hand a brilliant opportunity to do some real progress in tropical agriculture if it could only muster the courage to abandon the beaten track and face the economic realities of the Turrialba valley. Naturally, the suggested course is not the easiest; as in order to put across the project, the institute might have to fight both private electric utilities and certain foreign-financed agricultural ventures in which the workmen are kept under the patriarchal conditions which prevailed in Europe during the Dark Ages. But then again, what ever really great institution has ever grown up by following the beaten track?

Furthermore, any endeavor that the agricultural