follow special courses of lectures to be given for them at the University of Vienna.

ON June 24, the fourth anniversary of his death, the body of Luigi Luciani was transported from Rome to the place of his birth, Ascoli Piceno, accompanied by members of his family and representatives of various scientific and civic organizations. A memorial stone was placed at the house where he was born, and a memorial tablet of marble with a bronze medallion was placed at the house in which he spent his youth. Professor Baglioni delivered the address at the public meeting in the theater. Luciani, distinguished for his research on the heart and brain, was rector of the University of Rome and a senator of the kingdom.

DR. R. WIEDERSHEIM, emeritus professor of anatomy at Freiburg, has died at the age of seventy-five years.

PROFESSOR L. HILTNER, president of the Bavarian Botanical Institute, died on June 6.

PROFESSOR J. P. LANGLOIS, of the Paris Conservatoire national des Arts et Metiers, and editor since 1910 of the *Revue générale des Sciences*, died on June 17.

THE deaths are also announced of Dr. F. Krafft, professor of chemistry at Heidelberg, aged seventy-one, and Dr. Josef Nevinny, professor of pharmacology at the University of Innsbruck, aged seventy years.

THE University of Toronto has appointed a committee consisting of German authorities on metabolism: Krehl, of Heidelberg; F. Müller, Munich; von Noorden, Frankfort-on-the-Main; Minkowski, Breslau, and Strauss, Umber and Fuld, Berlin, with Minkowski as chairman, to study the use and bring about the preparation of insulin in Germany.

UNIVERSITY AND EDUCATIONAL NOTES

THE will of Mrs. Mary Clark Thompson, of New York City, contains bequests totalling nearly $1,700,000 to institutions to which she had been in life a liberal benefactress. Vassar, Williams and Teachers Colleges receive $300,000 each. $400,000 goes to the Frederick Ferris Thompson Hospital and $200,000 to Clark Manor House, both being at Canandaigua. Other public bequests are $300,000 to the New York Woman's Hospital and $50,000 each to the New York Zoological Society, Charity Organization Society and the Metropolitan Museum. The Public Library receives her rare books.

FROM the faculty of Emory University School of Medicine, Atlanta, Hubert Sheppard, Ph.D., professor of gross and applied anatomy, has resigned to accept a position at Rush Medical College, Chicago; Dr. R. Henry Baldwin, assistant professor of physiology, has resigned to join the staff of the St. Louis Hospital; Dr. Ernest B. Sare, professor of pathology and bacteriology, has resigned to become pathologist and bacteriologist to the Georgia State Insane Asylum, Milledgeville, and Dr. John Funke has resigned as professor of pathology to resume private practice in Atlanta.

THE following members have been added to the scientific departments of Clark University, and will begin their work with the opening of the fall semester: Dr. Asa A. Schaeffer, who for fourteen years has been head of the department of biology at the University of Tennessee, will join the staff in the department of biology. Dr. Schaeffer has been doing special research work under the auspices of the Carnegie Institution. Dr. Carl Murchison, of Miami University, has been appointed professor of psychology, and will be associated with Dr. Edmund C. Sanford in the conduct of both the undergraduate and graduate studies in that department. Dr. Clarence F. Jones, of the University of Chicago, will be assistant professor in the School of Geography, offering work in economic and commercial geography. Dr. O. E. Baker, of the Department of Agriculture, will be on the staff of the School of Geography during the second semester of the coming year, offering work in agricultural geography and land utilization.

DR. JOHN E. GUBERLET has resigned as parasitologist at the Oklahoma Agricultural and Mechanical College and Experiment Station and has accepted a position in the department of zoology at the University of Washington at Seattle.

DR. K. FASSLER, of Freiburg (Switzerland) has been appointed assistant and reader in mineralogy and geology at Laval University, Quebec.

PROFESSOR ROGER has been reelected dean of the Paris Faculty of Medicine. Professor Pierre Marie resigned his chair in the faculty on August 1.

DISCUSSION AND CORRESPONDENCE

THE PROFESSOR AND HIS WAGES

LET it be granted as a premise that the college professor neither can nor should be paid what he is "worth" to society. He can not be paid what he is worth because, though a salesman, the goods and services which he sells are of varying and uncertain value, depending much upon the personality of the teacher but even more upon the receptiveness of the student. In a given market a yard and a half of cloth has a definite value, but who can say what is the value of a term and a half of lectures on English literature? Student A may find as much pleasure

from being introduced to the kingdoms of literary imagination as he would from a gift of $25,000; Student B may value the same lectures at thirty cents; Student C, finding them anything but inspiring, may passionately declare, "I'd give a hundred never to have taken that course!" In all the professions one finds the same difficulty. What is the "worth" of a physician? First, tell us what is the value of a human life to its owner? What is the worth of a minister? Well, what is the market quotation on souls?

Nor should the standard be "the higgling of the market." Granting that you can get teachers cheaply, you run the risk of getting among them "cheap" teachers, who are dear at any price. The cheapest doctor is usually a quack; the cheapest lawyer a shyster; the underpaid judge takes bribes on the side; the underpaid engineer will give you the costliest bridge. Service of quality is not to be had over the bargain counter. Who would auction off the presidency of the United States to the man willing to take the lowest salary or offer command of the army to whatever general promised to carry on the cheapest campaign? Whatever be the market rate for teaching, there will be no lack of teachers—of a sort. There may even be among them a few competent men who regard teaching, like preaching, as a divine calling, or who are rich enough from private income to disregard salaries. But taking humanity in the mass, to degrade the standard of living of any occupation is to debase the quality of those who follow it.

PROFESSOR BLANK		
Age 15—	0	(in school)
Age 20—	0	(at college)
Age 25—	$600	(assistant)
Age 30—	$1,500	(instructor)
Age 35—	$2,500	(assistant professor)
Age 40—	$3,000	(associate professor)
Age 45—	$4,000	(professor)
Age 50—	$4,500	(professor)
Age 60—	Retired on half-pay	

JOHN SMITH, MERCHANT		
$500	a year	(office boy)
$1,500	"	(clerk)
$2,500	"	(salesman)
$5,000	"	(salesman)
$8,000	"	(sales manager)
$12,000	"	(general manager)
$25,000	"	(profits as owner)
$35,000	"	(profits as owner)
$25,000	"	(profits as retired stockholder)

The income of college teachers should then be fixed by the general condition of the labor market. This does not mean that an exactly equal salary is requisite to keep the professor from leaving the teaching trade for other lines of salesmanship. The rewards of the entrepreneur are and should be higher than those of the salaried man, because his risks are greater. The teacher, like the editor or the bank clerk, may lose his job, but the only capital he has invested in his business is his time and labor and special training. The publisher or banker or retailer of shoes runs the additional risk of losing the money which he has invested. But if we subtract a proper sum for "risk of capital," there is no further ground for discrimination between the rewards of business enterprise and the income for a profession. It is nonsense to urge that the "social prestige" or the "leisure" or the "pleasantness" of the professorship should be a counterweight for inequality of income. In the United States, at any rate, greater social recognition and prestige goes to the captain of industry than to any other man. The leisure of the college teacher is largely a myth. The pleasantness of his occupation, on the other hand, is undeniable; but who ever proposed to cut down the salary of a railway superintendent or the commissions of a bond salesman because he enjoyed his work? Some of the wealthiest men in the United States are hardly happy away from their offices and ticker tape, and they would enjoy a Latin professorship even less than the Latin professor would enjoy a seat on the stock exchange. Such considerations may be dismissed as altogether beside the point.

We need not assume that the average instructor or professor is as able as a captain of finance. For efficient instruction it would suffice to put the college teacher on a par with a competent bond salesman, general merchant or metropolitan lawyer. Let us compare a typical professorial career with that of a comparably intelligent business man. The following estimates will not be far wrong:

Admitting that not all merchants are as successful as Mr. Smith, the fact remains that not all teachers are as successful as was Professor Blank; the table above gives the relative status of two competent men of similar standing in their respective occupations.

A reasonable standard, which would still allow the business man who risks his capital an additional income as insurance for his business risks, would give Professor Blank at least twice his present salary at each round of the academic ladder. To put it concretely, until instructorships pay $3,000 a year and full professorships $8,000 to $10,000, the business world can always outbid the colleges for the services of able men.

One more point should be considered, the exceptional reward for the exceptional man. Business has its millionaires; education has none, though the economic value to society of the work of the research scientist of the highest caliber may be many times

greater than the value of the ablest banker or railroad president. Wealth depends on industrial method; industrial method depends on invention; invention depends on pure science. Now, there is no need of making our Pasteurs or Faradays millionaires; they will do their work without any such reward. But it would be only a meet recognition to pay the outstanding men of science at least as much as a first-class "realtor" or the business manager of a sizable corporation. If each great university should create, say, ten university professorships paying each $20,000 a year, it is unlikely that science would lose many of its ablest men to less important occupations.

It goes without saying that such salaries should be paid only to men of outstanding originality and achievement. Better have the ten university professorships stand vacant for a decade than have their quality lowered, for half their value would depend upon the signal distinction which they would confer. Ordinarily they should go to men in the natural sciences, where research is of the highest importance to human welfare. But one or two might well be awarded to an Emerson or William James in philosophy, or a Lowell or Hawthorne in literature. The mere "scholar" should be well content with an ordinary professorship at $10,000, the highest reward that could reasonably be demanded for efficient industry without imagination.

PRESTON SLOSSON

UNIVERSITY OF MICHIGAN

THE TEMPERATURE OF MINES

I HAVE been recently getting together some figures of the deep temperatures in the mines of the copper country of Michigan and find that apparently a wave of heat, starting some ten thousand years ago, has not reached the bottom of the deeper mines, so that if one takes the temperature at the bottom of the mine and considers how much it drops every hundred feet towards the surface and continues at the same rate to the surface it would imply a surface temperature of not far from freezing. That is to say, the temperatures at the bottom of the mines are adjusted to surface temperature nearly freezing which we may imagine existed under the ice sheet and the rise in temperature since has not worked that far.

Now in the last *Mining & Metallurgical Journal* there appeared an article on the deepest mine in the world, St. Juan Del Rey in Brazil, and there again we find that the temperature at the bottom as compared with that say 5,800 feet down would indicate a much lower surface temperature than really is the case.

Can any one tell me, and here I appeal to those of your readers who are up in other branches of science, whether there are indications in Brazil of a much cooler temperature only a few thousand years ago?

ALFRED C. LANE

TUFTS COLLEGE, MASS.
JUNE 15, 1923

"A HUNDRED POUNDS"

IN SCIENCE of July 27, 1923, Mr. Samuel Russell, referring to my letter of February 23, explains at some length that a hundred weight is not the weight of a hundred pounds but "consists of 112 standard pounds of 7,000 grains, and is divided into 8 stone of 14 standard pounds."

Clearly this solves the problem: "When does a hundred pounds not weigh a hundred pounds?"

I fear Mr. Russell took my letter more seriously than was intended; regarding it as an unprovoked and wanton assault upon the integrity of the defenceless but upright pound. I meant only to call attention to the irrationality of our present legalized weights. For example: 7,000 grains make a pound, a certain kind of a pound; 5,760 make another kind of a pound; 16 ounces make a pound of a certain kind; and we can all say off-hand how many grains there are in such an ounce! (437.5?). But the worst is yet to come. 8,750 grains, which is one eighth of 70,000 grains, make a stone; and 8 stones (a stone being 14 pounds as we all recall) make a hundred weight, which is not as one might suppose 100 pounds, but 112 pounds.

Hence, 2,240 pounds, or 160 stones, make 20 hundred weights or a ton of a certain kind, equal to 20 times a hundred pounds. The coal dealer buys by the hundred weight or 2,400 pounds and sells by the hundred pounds, gaining just 12 per cent. on each weighing. Or we may say that the consumer loses just that much on each weighing. Is not the former an *appreciation* and the latter a *depreciation* of the pound?

ALEXANDER MCADIE

QUOTATIONS

A GREAT BIOLOGICAL LABORATORY

IT is the humble, often little-known toil of an army of investigators that gives to scientific research so great a collective value to humanity. The celebration this week of the fiftieth anniversary of the Biological Institute, now known as the Marine Biological Laboratory, at Woods Hole, draws our attention to the valuable work which scientists have been doing in this institution for many years. When it was founded half a century ago at Penikese Island, the sea was a thing of wonder and mystery. Scientific men knew comparatively little of biological life in the ocean and what was known aroused a desire among them to learn more about the forms of life that existed in the sea.