

What Dr. Osler Really Said.

The sensational press has so unfairly distorted what Dr. Osler really said in his valedictory address at Johns Hopkins University on the subject of men over forty that we take this opportunity of quoting his own words. His plan of chloroforming men over sixty sinks into a humorous perversion of Anthony Trollope's whimsical suggestion:

"I am going to be very bold and touch on another question of some delicacy, but of infinite importance in university life, one that has not been settled in this country. I refer to a fixed period for the teacher, either of time of service or of age. Except in some proprietary schools, I do not know of any institutions in which there is a time limit of, say twenty years' service, as in some of the London hospitals, or in which a man is engaged for a term of years. Usually the appointment is *aut vitam aut culpam*, as the old phrase reads. It is a very serious matter in our young universities to have all of the professors growing old at the same time. In some places only an epidemic, a time limit, or an age limit, can save the situation.

"I have two fixed ideas well known to my friends, harmless obsessions with which I sometimes bore them, but which have a direct bearing on this important problem. The first is the comparative uselessness of men above forty years of age. This may seem shocking, and yet, read aright, the world's history bears out the statement. Take the sum of human achievement in action, in science, in art, in literature—subtract the work of the men above forty, and, while we should miss great treasures, even priceless treasures, we should practically be where we are to-day. It is difficult to name a great and far-reaching conquest of the mind which has not been given to the world by a man on whose back the sun was still shining. The effective, moving, vitalizing work of the world is done between the ages of twenty-five and forty years—these fifteen golden years of plenty, the anabolic or constructive period, in which there is always a balance in the mental bank and the credit is still good.

"In the science and art of medicine there has not been an advance of the first rank which has not been initiated by young or comparatively young men. Vesalius, Harvey, Hunter, Bichat, Laennec, Virchow, Lister, Koch—the green years were yet on their heads when their epoch-making studies were made. To modify an old saying, a man is sane morally at thirty, rich mentally at forty, wise spiritually at fifty—or never. The young men should be encouraged and afforded every possible chance to show what is in them. If there is one thing more than another upon which the professors of the university are to be congratulated, it is this very sympathy and fellowship with their junior associates, upon whom really in many departments, in mine certainly, has fallen the brunt of the work. And herein lies the chief value of the teacher who has passed his climacteric and is no longer a productive factor; he can play the man midwife, as Socrates did to Thesetetus, and determine whether the thoughts which the young men are bringing to the light are false idols or true and noble births.

"My second fixed idea is the uselessness of men above sixty years of age, and the incalculable benefit it would be in commercial, political, and in professional life if, as a matter of course, men stopped work at this age. Donne tells us in his 'Biathanatos' that by the laws of certain wise states sexagenarii were precipitated from a bridge, and in Rome men of that age were not admitted to the suffrage, and were called *deportant* because the way to the senate was *per pontem* and they from age were not permitted to come hither. In that charming novel, the 'Fixed Period,' Anthony Trollope discusses the practical advantages in modern life of a return to this ancient usage, and the plot hinges on the admirable scheme of a college into which at sixty men retired for a year of contemplation before a peaceful departure by chloroform. That incalculable benefits might follow such a scheme is apparent to any one who, like myself, is nearing the limit, and who has made a careful study of the calamities which may befall men during the seventh and eighth decades!

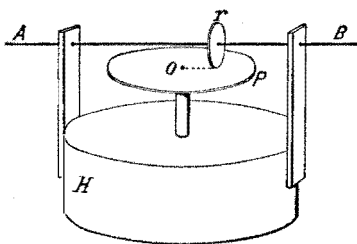
"Still more when he contemplates the many evils which they perpetuate unconsciously and with impunity! As it can be maintained that all the great advances have come from men under forty, so the history of the world shows that a very large proportion of the evils may be traced to the sexagenarians—nearly all the great mistakes politically and socially, all of the worst poems, most of the bad pictures, a majority of the bad novels, and not a few of the bad sermons and speeches. It is not to be denied that occasionally there is a sexagenarian whose mind, as Cicero remarks, stands out of reach of the body's decay. Such a one has learned the secret of Hermippus, that ancient Roman, who, feeling that the silver cord was loosening, cut himself clear from all companions of his own age, and betook himself to the company of young men, mingling with their games and studies, and so lived to the age of 153, *puerorum habitu refocillatus et educatus*. And there is truth in the story, since it is only those who live with the young who maintain

a fresh outlook on the new problems of the world.

"The teacher's life should have three periods—study until twenty-five, investigation until forty, profession until sixty, at which age I would have him retired on a double allowance. Whether Anthony Trollope's suggestion of a college and chloroform should be carried out or not, I have become a little dubious, as my own time is getting so short."

REGISTERING THERMOMETER.

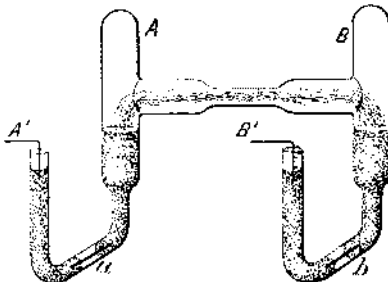
M. Charles Féry, of Paris, has devised a new form of registering thermometer which gives the mean temperature of a given place by direct reading. This form of instrument will no doubt prove of use in different cases. M. Féry used it at the Observatory in making experiments on chronometers, where it was necessary to have the mean temperature. The instrument is constructed as shown in the accompanying diagram. A light shaft, *A B*, supports a disk or roller, *r*. The shaft can be displaced in either direction by a metallic thermometer which is connected with it (the latter is not shown here). By this displacement, the distance *or* from the roller to the center of the revolving plate upon which it rests is proportional to the temperature.

**REGISTERING THERMOMETER.**

The revolving plate, *P*, is set in rotation by a clockwork movement, *H*. From this disposition it results that the number of revolutions of the roller per unit of time is proportional to the mean temperature. A simple device allows of registering the number of revolutions of the roller, and at regular intervals the revolving plate is caused to drop down for a few seconds so as to allow the roller to take its exact position. This movement eliminates the errors which might arise from the friction of the roller according to the radius *or*. The apparatus was standardized by the Ostwald regulator, which keeps the temperature constant as long as desired within 1-10 of a degree C. The curve which represents the number of revolutions in function of the temperature is found to be a straight line. It is to be remarked that a very great precision of the clockwork movement is not necessary, seeing that a variation of 15 minutes in a day's run only affects the measurements by one per cent. The mean temperature is registered upon a revolving drum which is divided to 1-30 degree.

A NEW CADMIUM LAMP.

A new cadmium lamp has been recently invented in Germany, and offers considerable interest, at least from a theoretical standpoint. Some seven years ago, Gumlich made a lamp using cadmium and mercury, and the light contained the very brilliant rays of the cadmium spectrum superposed upon the mercury rays. The lamp did not last long, however, as the globe broke very soon. At present two experimenters, O. Lumnur and E. Gehrcke, have taken up the question. Their new lamp is shown in the diagram. It is formed of two vertical tubes, *A B*, joined by a horizontal tube. The lower ends of the tubes are made narrower and are bent twice at an angle. At *a* and *b* is an iridium wire which runs through a solid glass part. The tubes are filled to a certain height with mercury and then sealed at *A* and *B*. Current is brought by wires dipping into mercury at *A'* and *B'*, which are fixed in cement. The experimenters use an amalgam of 14 parts cadmium and 100 mercury in this case. It is soft at the ordinary temperature and becomes fluid when it is slightly heated. To start the lamp it is connected in parallel with an induction coil and the current is suddenly broken, which causes a momentary high potential for starting the arc from *A* to *B*. The lamp continues to work regularly and takes a current of 1 or 2 amperes. It is generally necessary to warm up the lamp before using it, with a Bunsen burner.

**CADMIUM LAMP.**

The Times correspondent at Colombo states that Sir H. A. Blake, governor of Ceylon, announced at the last meeting of the Asiatic Society that Sinhalese medical books of the sixth century described 67 varieties of mosquitoes and 424 kinds of malarial fever caused by mosquitoes.

Correspondence.**Electrolytic Theory of Dissociation and Digestion.**
To the Editor of the SCIENTIFIC AMERICAN:

My attention was recently called to an article published in Vol. xcii, No. 9, of March 4, of the SCIENTIFIC AMERICAN, containing a rather remarkable statement from Prof. R. E. Hirsch, of Ohio State University, to the effect that the theory of electrolytic dissociation could be used to explain some results obtained by him in his experiments upon digestion. The experiments indicated that, when animals were kept on a diet, constant except for the amount of fluid ingested, digestion took place more completely when water was freely used, than when the amount was reduced considerably. The criterion for digestive efficiency was the amount of excretion recovered during the test periods. Prof. Hirsch explains this rather simple and well-known physiological phenomenon on the ground that as the food is more and more diluted, it is correspondingly dissociated, and absorption and assimilation of the food goes on more effectively when it is in the ionic condition than when it exists in molecular form. Such a theory sounds very well indeed, and would doubtless apply to the case in question, were it not true that foods are not electrolytes, and are not dissociated when in solution. In fact, the only parts of our diet which it is possible to convert into the ionic condition in normal digestion are the various metallic salts and the like, introduced as seasoning or present originally in the food material. Our ordinary food stuffs are the fats, the carbohydrates, such as starch and sugar, and the proteins, such as meat and eggs. None of these food stuffs are electrolytes themselves, nor are they converted into electrolytes during the process of digestion, so that the application of the ionic theory to materials which are not ionizable seems rather fantastic.

H. C. BRADLEY.

New Haven, Conn.

[The letter referred to by Mr. Bradley was received by the Editor and published in the correspondence column of March 4, which department of the paper is devoted to miscellaneous correspondence, for which the Editor does not hold himself in any way responsible. It appears that the theory advanced over Prof. Hirsch's name was a forgery, and the following letter from Prof. Hirsch explains the fact that not only does he not hold himself responsible in any way for the statements contained therein, but that he had never seen the letter until it appeared in the columns of the SCIENTIFIC AMERICAN. The Editor is co-operating with Prof. Hirsch in an effort to find out who is the perpetrator of this imposition upon Prof. Hirsch and upon the SCIENTIFIC AMERICAN.—EDITOR.]

A Denial from Prof. Hirsch.

To the Editor of the SCIENTIFIC AMERICAN:

I am this day in receipt of your favor of the 9th instant calling attention to an article published in your journal of March 4, 1905, entitled "Electrolytic Theory of Dissociation," and signed "R. E. Hirsch, Assistant Professor of Chemistry, Ohio State University."

As I am the only person connected with the Ohio State University bearing a name in any way similar to the one suffixed to above-mentioned article, I take it upon myself to inform you that I had never seen the article until my attention was called to it by your letter. I deny any knowledge of it, and would be greatly pleased to have you aid me in any way possible to discover the author of it.

As this is a matter of more than passing seriousness, I hope you will give it due mention in your columns.

RUDOLPH HIRSCH,

Instructor in Agricultural Chemistry, Ohio State University.

Columbus, Ohio, March 13, 1905.

A system of electric road locomotive is now running very successfully at Monheim, Germany. This locality is situated between Mülheim and Düsseldorf on the right bank of the Rhine, and the new line is intended to connect it with the railroad station on the Cologne-Düsseldorf-Berlin line, which lies 2.4 miles distant. A hydraulic station at Solingen furnishes the current. The Schiemann system of track locomotive and car is employed in this case. The locomotive travels upon the main road, without rails, and takes current from two overhead wires. A type of car resembling an omnibus and containing twenty-five places is also used. It carries a 30-horse-power electric motor. A special form of trolley brings the current into the car. The locomotive, which is of large size, is used also for freight, and it takes a train of several freight cars of special construction which are joined by patented couplings. This system is especially useful upon roads where the traffic is not sufficient to warrant the expense of laying a track for the cars. The question of road locomotives and cars has been studied within the last few years, and several systems have been devised which are in successful operation in Europe. Different lines of this kind are now running in Germany and France.