

## Fundamental Principles of Health

By ALBERT S. GRAY, M.D.

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### RADIANT ENERGY AND DISEASE.

So tenaciously do the legends of our forefathers cling to us that even yet it is the common belief that all our ills are of external origin, the result of some malignant power which takes possession of us by capture and can be overcome only by the introduction into our bodies of the appropriate antagonist in quantity sufficient to neutralize and beat down the unhealthy conditions. Every discovery seems to prove that the truth is always simple, but because our powers of observation are poorly trained and our knowledge of the universe is very slight we go blundering along, ever seeking some miracle for the relief of our ills, blind to the fact that health is simply a matter of being in accord with the balance of the universe. The truth of this is proved by the fact that in the final analysis all our diseases are found to originate in some deficiency, because we ignore some simple natural requirement which breaks the normal continuity of the vital chain binding every living unit into a nicely balanced reciprocating machine.

"The scientific world has come to believe that the primary sources of natural energy by virtue of which the universe keeps going over immense periods of time are to be found not in the great masses of glowing matter dotting the heavens, nor in any of the relations between energy and matter in bulk, but in the reactions between the individual atoms out of which bulk is made up. Just so, too, our health, happiness and efficiency are the direct products of the natural operation of the individual cells of which we are composed. And anything which disturbs the natural relations between these minute individuals is certain to result in some form of variation which we usually call ill health.

We have noted that variations in plant growth take place under different colored lights because plants have the inherited capacity to develop normally only under white light. But there has been very little research work done along these lines for the purpose of determining why these variations occur. Probably the most significant facts in this connection are to be found in the discoveries of Dr. J. R. Green, who in 1897 showed that light had an appreciable effect on the formation and action of the enzymes in plants and that the red and blue rays favored the formation of the enzymes, while the green, the indigo and the violet, and especially the ultraviolet, rays destroyed them. He also made the striking suggestion that "vegetable structures have a power of absorbing radiant energy which is not connected with the presence and activity of chlorophyll."

We know tuberculosis to be essentially a deficiency disease, the ultimate result of insufficient food and air and light. The only known successful method of controlling the disease consists in supplying the missing factors by a simple substantial diet and living out of doors. Prevention, not cure, is the modern weapon against this scourge, and prevention consists in sufficient food, air and light.

If all living things are subject to the same laws then it would be reasonable to infer that Doctor Green's hint that "vegetable structures have a power of absorbing radiant energy which is not connected with the presence and activity of chlorophyll" may have a parallel in the human body, and perhaps we, too, may have a power of absorbing radiant energy not connected with the presence and activity of hemoglobin, our oxygen carrying substance analogous to chlorophyll in the plant. This appears to be true in a measure, if satisfactory improvements in tubercular conditions secured under direct sun rays are noted.

A method of treatment by means of prolonged exposure of the naked body to solar rays has been found particularly helpful for tuberculosis of the bones, joints and ganglia. The new treatment is called heliotherapy and has been found not only particularly helpful in tubercular diseases, but has also met with marked success in other diseases.

In a general sense the healing virtues of sunlight have been recognized from the dawn of human history and are embodied in a thousand myths and legends, but the facts have been steadfastly ignored, while the whole world

### Activities of Women.

All of the post offices in Germany are now being conducted almost exclusively by women.

More unmarried than married women were defendants in the New York criminal courts last year.

The average salary of a chorus girl in a first-class musical show is \$35 per week.

Women in Belgium who earn from five to seven cents an hour consider themselves well paid.

Among the French troops fighting Germany is a young woman laundress who wears a soldier's uniform.

The New York Young Women's Christian association has opened a training school for maids and cooks.

Unique Flag for the Canal.

There is a ton of treatment that will appeal to all in the proposition to manufacture in Philadelphia the flag that is to fly over the Panama canal.

One Sent.

Mrs. Faddling (who is distributing flowers among the poor)—is it possible, my dear, that none of your family was sent away by the French Air Force?

Ward Has Had Enough.

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has sought for the fountain of youth. It has remained for our own generation to discover that direct sunlight is not merely beneficial in stimulating the general health and raising the tone of mind and body, but that, as we shall later see, it possesses a therapeutic value in certain ailments which borders on the marvelous and forces us more and more to recognize that disease is the result of social and economic conditions.

### SUNLIGHT AND TUBERCULOSIS.

Referring to certain worms and jelly-fish which contain chlorophyll, seek sunlight and give off oxygen in the light, but soon die if kept in the dark, Bunge writes: "It follows that a complete antithesis between interchange of force and matter in animals and plants does not exist; and it will be henceforth impossible to separate the physiological chemistry of the vegetable from that of the animal world. The more our knowledge of each section of science advances the more the two become fused together." There is a fundamental law that prevails throughout all departments of nature that nothing can come into being that is not demanded by the conditions at the time. There is, in other words, a reason for everything, and investigation to the point of understanding invariably proves every phenomenon to be very simple.

Ordinarily the sun is looked on by the average individual with interest only when it is undergoing eclipse, but the botanist who has reduced plant culture to almost a science knows that the sun is the most vital factor in life. The botanist knows by experience that if his plants do not receive sufficient sunlight they become weakened and readily acquire all sorts of fungous diseases. There is no mystery about it at all. Also he knows that if the soil conditions are not so that sunlight alone will not protect his plants from diseases. All the conditions must be in harmony for normal results.

Possibly taking the hint from the botanist, Professor Poncet of Lyons—the first person systematically to employ heliotherapy, a method of treating tubercular infections by means of direct sunlight—began to use the direct sun rays in the treatment of tubercular joint infections in 1892 and not only used the method freely in his personal practice, but impressed the value of solar exposure upon all his pupils. In 1899 the definite statement was made that Professor Poncet believed the beneficial effects from the exposure of tubercular infections to solar rays extended not only to tubercular bones, ganglia and the like, but also to tuberculosis of the internal organs. It is interesting here to note that Dr. Alexis Carrel began his surgical studies as interne under Professor Poncet and it is not unreasonable to infer that the influence of Professor Poncet's initiative may have spurred Doctor Carrel into original work.

Doctor Rollier, a Swiss physician of Leyden, became an ardent advocate of the treatment and secured marvelous results from the use of direct sun rays on tubercular infections in patients among the snow covered peaks of Switzerland.

Doctor Oelsnit of Nice reports the treatment useful in tubercular peritonitis. Doctor Emmett of Philadelphia and Doctor Squireff of Moscow report excellent results from sun rays in acute muscular rheumatism. Direct sunlight is declared to be beneficial in infected wounds, and Doctor Aimes of Montpellier reports that the treatment hastens the formation of scar skin on burns, which usually heal very slowly.

Doctor Hinsdale, writing in the Interstate Medical Journal, describes the treatment as follows: "The patient is clothed in linen or white flannel, according to the season; he wears a white hat and is protected from direct sunlight on the face by a screen and wears smoked or yellow glasses. And now comes the peculiar and interesting method of the exposure. It makes no difference where the disease is located, whether in the hip, the spine or the cervical glands, the invariable rule is to begin with the feet. The next day the legs will be exposed; the third day the thighs. On the fourth day the abdomen is exposed; the fifth the thorax. Finally on the sixth or seventh day he exposes the neck and head with careful supervision."

The treatment is reported to be very effective in tubercular hip, joint and knee diseases, especially in the latter, because in such cases not only is the infection destroyed and the wound healed, but the joint remains mobile, a result always lacking where surgical interference is resorted to. Also it is reported effective in tubercular peritonitis, acute muscular rheumatism and trachoma, a very infectious granular inflammation of the mucous lining of the eyelids and the outside of the eye.

But it is not necessary to go to the mountains for treatment, for the sun shines everywhere.

The stripe which is to represent it in the standard. The whole is to be put together in the Betty Rom house in Philadelphia, and to make a flag that is to be unfurled when President Wilson presses an electric button in Washington. Colonel Goethals has interested himself in the matter and there will probably be no difficulty in carrying it to a successful conclusion.

A Big Mistake.

"What's the matter?" we asked of the June groom.

"I'm in bad. My wife says her faith in me is hopelessly shattered."

"What terrible thing have you done?"

"It didn't seem so terrible at the start. I broke a dish and tried to blame it on my wife's pet cat."

Encourage Football.

The Union of French Sporting and Athletic societies has issued an appeal to all district committees to resume work organizing teams for rugby and association football matches.

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## PENNSY'S NEW COACH MAKES EARLY START



Coach Vivian Nickalls.

Coach Vivian Nickalls means to make the Pennsy boat crew do some tall hustling in order to get them into shape, and already has had his boys out for a few spins on the Schuykill river. The famous English oarsman is expected to do some wonderful things with the material he has, and that he will try to do his utmost to make a winning crew goes without saying.

## VETERAN RUNNER NEARS END COAST'S BIG SPORTING YEAF

Racing Days of Mel Sheppard Are Believed to Be About Over—Always a Popular Athlete.

Mel Sheppard, veteran of the racing game, is about through as a sprinter. He may take part in one or two more events, but it will be entirely on his nerve. Mel has been a prominent figure in athletics for several years. He first attracted attention as a school boy runner in Philadelphia and later as a member of the Irish-American Athletic club of New York carried its



Mel Sheppard.

colors to victory on both sides of the Atlantic. As a middle-distance runner he stood without a peer for several years. So many good youngsters are coming along in the running now that Mel is gradually slipping into the discard. Always a popular athlete he will be missed when it comes time for him to lay aside his running togs for good.

Golf Course in Cemetery.

Unique golf items come from foreign lands from time to time, one of the latest being an account of a Chinese course which has been laid out in a large cemetery. The rather gruesome links are located near Tien-Tsin, and as the Chinese bury the dead just below the surface of the ground and then mound up the earth to a considerable height, the course has been aptly termed one of "A Thousand Bunkers." Special ground rules prevail, including one which permits a player to lift his ball from a freshly dug grave. The Chinese caddies receive five cents per round of 18 holes.

Shamrock IV Safely Housed.

Sir Thomas Lipton's cup-hunting yacht, Shamrock IV, which arrived in New York on August 16, is now completely housed at a shipyard in South Brooklyn. It required 34,000 square feet of corrugated iron sheets to build the shed which will hide the yacht from the eyes of the curious and protect her from the weather until the war is over, when she may be taken out to fulfill the mission for which she was built. The interior of the Shamrock's shed is illuminated by an extensive system of electric lights.

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## Practical Agreement on Athletic Carnival in Connection With the 1915 Fair in San Francisco.

While members of the Olympic congress have been debating on the standardized program for future international meetings the powers that be on the Pacific coast have practically agreed on the athletic carnival of sports scheduled in connection with the 1915 fair in San Francisco. John McGovern, secretary of the Athletic department, states that the opening of the exposition on February 20 will mark the beginning of the great year that sport has ever known.

"Almost every day from the time the gates open officially until its close, December 4," McGovern goes on to say, "the fair will bristle with athletic activity. Nowhere in the world has such a stupendous program ever been outlined."

According to McGovern, every form of sport, from the most ancient to the most modern, will be indulged in. All of the national championships of the A. A. U. are open to amateur athletes of the world. These blue-ribbon events follow: February 22, basketball; March 26 to 27, gymnastic; April 16 and 17, wrestling; July 19 to 24, swimming; July 19 to 24, water polo (soccer); August 5, all-around; August 6, junior, and a day later, senior track and field; August 9 to 10, relay racing; August 12, ten-mile run, seven-mile walk and international tug of war (Olympic rules).

In addition to the champs the following international events have been decided upon: April 26 to 30, fencing; May 5 to 8, boxing; August 2 to 4, cycling; August 5 to 6, dumb-bell and weight lifting; August 13 to 14, intercollegiate championships; September 6, pentathlon (five events); September 13 to 18, United States Football association soccer championships; tennis champs during September, and October 4 to 9, lacrosse.

## TO RESTORE FOOTBALL GAME

Agitation at Columbia for Renewal of Gridiron Contests—Open Style Removes Danger.

An agitation has started for a renewal of football activities at Columbia college. Those who favor the re-introduction of football at the college point out that the main objection that the Columbia faculty had concerning the game now is removed. The Columbia authorities barred the game eight or nine years ago because of the many deaths and serious injuries that occurred on the football field during the period.

The new style game, it is pointed out now to the faculty, has removed much of the danger in football.

Columbia has a student enrollment of about six thousand and from among this collection of youths it could mobilize enough footballers to give the best teams in the country a real battle for annual honors.

## MISCELLANEOUS

Meantime, a gink named Avery has acquired quite a reputation in the vicinity of Franklin field.

Yale's new stadium holds more than 60,000 spectators. Certainly it was not designed by a ticket speculator.

George H. Goulding, world's champion walker, is president of the Toronto Central Walkers' club, just formed in the Canadian city to boom heel-and-toe walking.

Prospects for next season's track team at New York university went up with a jump when it was learned that Harry J. Smith, indoor two-mile champion and former 10-mile champion, had matriculated as a student at the New York University law school.

Albert B. Robinson, the former Mercedesburg sprinter, has matriculated at Michigan university and is expected to prove a worthy successor to Ralph Craig and Archie Hahn. Coach Farrell has forbidden him to play with the freshman football team.

Woolfolk Henderson, the Kentuckian who won the Grand American, heads the amateur averages to date over registered targets with a percentage of 96.52. But S. A. Huntley of Vancouver, who is but .0010 points behind him, has fired at 5,340 more targets.

Boxing Gloves for Soldiers.

Boxing, a London magazine, has made a request for 1,000 sets of boxing gloves to be donated to English soldiers.

Boxing contests form one of the principal pastimes with the English soldier.

At the present time there are 130,000 soldiers at Aldershot drilling and training for the war.

As there are few exercises that will fit a man physically quicker than boxing, there has been a big demand for more gloves. They do not ask for new gloves—just boxing gloves of any make or color.

Several firms have agreed to make new gloves at cost, providing they are donated to the army.

## BASEBALL

There is one thing Dan Johnson can't do. He can't keep Hughie Jennings from talking.

With Bender and Coombs gone, the Athletics may pay more attention to baseball and a little less to golf.

Boston scribes say Otto Hees is twenty-seven. That would have made him a soldier in the Spanish war at eleven.

Bunny Hearne will not wear Toronto spangles next season. The left-hander McGraw sent back will depart in a Federal park.

Johnny Kling states that he will return to baseball next season, as his business is in such shape that he can desert it for the lure of the diamond.

Marty O'Toole is said to be anxious to join the Boston Braves, but the long-distance connection with Jones county, Georgia, appears to be out of order.

## FOOTBALL

Judging from the rapidity with which football's "hopeless cripples" recover, they aren't using dum-dums in football.

Dalton, former captain and kicking star at West Point, helped coach the University of Pennsylvania punters early in the season.

England is all stirred up because the football players will not enlist until the championship is decided. Those Brits take the war too seriously.

Aside from the many upsets which have featured the 1914 season, the poor showing of the Carlisle Indians, who always have been a factor in eastern football, is one of the surprises of the season.

Coach Yost of Michigan is not the only football mentor who owns an automobile. Coaches Juneau and Driver of Wisconsin have purchased buzz wagons, which enable them to make the long trip from the town to the field without loss of time.

## PUGILISM

The only objection we have to Freddy Welsh is that he wears a stick.

"Freddie Welsh is shy of a knock-out punch," screeches the critic, but oh, you left jab.

"Carl Morris hit like a cow when I first saw him," writes McCarney, who claims something in Morris' development.

Pal Brown was given a "Windsor draw" with Drouillard, demonstrating Pal must have won by something less than a mile.

New York and Wisconsin boxing commissions may ban boxers who commit fouls. There is no opposition from the promoters who are on the level.

## HORSE RACING

Rosebud McKinney, 2:12 1/4, is a pretty clever trotter this year, having won seven races.

Hill Andrews has been an industrious chap as he has marked no less than 24 of the 2:10 trotters.

One of the best-looking trotters in California is Ho Tobs, that mare making her record of 2:09 on a half-mile track.

## BILLIARDS

Johnny Kling, the former baseball catcher, is representing Kansas City in the Interstate Three-Cushion Billiard league.

In the absence of the English billiard champion, the annual \$5,000 tournament in London has attracted entries from six players who are representative of the highest class of English style playing, including George Gray, H. W. Stevenson, Tom Reece, Edward Diggle, Tom Newman and W. Smith.

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