Are You Lazy?---Then Take Anti-Lazy Serum and Become Energetic

THE MOTHER OF THIS CHILD HAD GIVEN BIRTH PREVIOUSLY TO TWO OTHER CHILDREN, ONE OF WHICH WAS DEAD AT BIRTH, AND THE OTHER OF WHICH LIVED ONLY A FEW WEEKS. IN EACH CASE THE MOTHER'S CONDITION WAS SERIOUS. THE LAST BABY WAS BORN WITHOUT MUCH PAIN TO THE MOTHER, AND HER CONDITION BEFORE THE BIRTH WAS FREE FROM ALL OF THE SICKNESS USUALLY ATTENDING SUCH A CONDITION.

ADMINISTERING SERUM

PREPARING SERUM

Chicago physician achieves some amazing results by treating patient with patient's own blood which has been made into a vaccine

PHYSICIANS and surgeons from the four corners of the globe have experimented with cats, dogs and monkeys to find a serum for appendicitis, infantile paralysis, diphtheria and what not. But the latest serum is the "Lazy Serum," which has been demonstrated to have splendid and efficient action on both body and mind.

This is the discovery of Dr. L. D. Rogers, formerly surgeon at Cook County hospital, Chicago, 20 years senior professor of surgery in the National Emergency hospital, and first president of the American Cancer Research society.

Technically this new treatment is known as autohemic therapy, which means treating your blood with your own blood. The process first became generally known last year, when Doctor Rogers read a paper before the Chicago Society of Medical Research. He reported to the society the results of his six years of observations treating patients with a serum made with their own blood as a base. The doctor treated all classes of patients whose troubles were apparently due to faulty blood and his results in general were declared to be remarkable. In the ten months that have elapsed since the autohemic treatment was made public the serum has become recognized as a discovery as important as the achievement of Dr. Alexis Carrell, who was the first to transplant human organs.

Autohemic therapy is especially remarkable because of its simplicity. Briefly, Doctor Rogers' treatment consists in taking five drops of blood, or some multiple of five, from a vein and putting it into 19 times as much sterilized, distilled water. After incubating it at fever heat for 24 hours, further dilutions are made according to the needs of the patient, which can be determined only by a physician skilled in its use. When ready for injecting, the serum is colorless, odorless and tasteless. Doctor Rogers is also authority for the statement that he has not been able to find any physiological chemist sufficiently skilled to determine its contents.

Twenty to thirty drops of the serum or solution thus prepared are injected into a vein or under the skin. It may also be given by mouth, but not with as certain results.

There seems to be no limit to the number of diseases and complaints for which this new treatment is beneficial. It is easier to enumerate those conditions for which it is not applicable. Troubles mechanical, organic, or of acute bacteriological origin, and those clearly recognized as incurable, are not expected to be benefited by it, although a few of these appear to yield.

The solution has been termed the "Antilazy Serum" because it primarily has the energizing qualities that do away with nervous fatigue, while greatly increasing physical and mental endurance.

To illustrate: The fourth day after treatment a woman walked ten miles and was not as tired as she had been previously after walking only half a mile.

Another case in point was that of a man generally conceded to be the laziest person in his community. He drank about 20 "whiskies" a day, but after the administration of the serum he began to do regular hard manual labor. This was about the first real work he had done for six years. His rheumatic pains left him, he needed a cane no longer, his appetite returned, insomnia was replaced by sound, refreshing sleep, his weight increased five pounds and his general appearance changed from that of a "bum" to that of a clean, wholesome, bright and honest workman. Previously, too, he had suffered from loss of memory, but after taking the serum he could recall the names of many old acquaintances whom he could not remember before taking the treatment.

Most remarkable results have been obtained when the serum was administered to expectant mothers, and it is in this field that Doctor Rogers expects the greatest good to be accomplished through the autohemic treatment. It is his belief that if the treatment comes into general use the birth of physical and mental defectives will be reduced 90 per cent, and infant mortality from congenital weakness, the greatest cause of death among children, will be wiped out.

Although Doctor Rogers and his associates have treated a large number of expectant mothers with the new serum there has yet to be reported a case in which relief was not obtained from those troublesome complaints so common during this period. Furthermore, in a series of cases of mothers who had previously borne children, the average duration of suffering with the birth of the serum baby was three hours, while with the former children without serum the average was 11 hours. Still more wonderful and more important is the fact that children whose mothers had treatment a few months before their birth are stronger, and healthier, mentally and physically, than other children of the same family who did not have the benefit of this autohemic therapy. There has not been reported a death among the "serum" babies, although some are now five years old.

It was while spending the winter of 1909-10 in Paris and London that Doctor Rogers became interested in the study of cancer. He gave a great deal of his time watching some of England's famous physicians hard at work in the Imperial Cancer Research laboratory, the Middlesex Hospital Cancer laboratory, and the laboratory presided over by Sir A. E. Wright, who originated the idea of vaccination against typhoid. He visited the Pasteur institute in Paris, and there saw monkeys inoculated with the products of infantile paralysis. Naturally he became greatly enthused over the possibilities of serum treatment, and he came home with the determination to make an attempt to discover a serum to cure cancer, diabetes, goiter and pernicious anemia, the most difficult chronic disease to fight. He has been successful in treating some remarkable cases of goiter without resorting to an operation. Many cures of diabetes have been reported, and encouraging results have been obtained in pernicious anemia.

Doctor Rogers' treatment of the blood seems to bring out remarkable energizing qualities. Just as the latent energy residing in water may be converted by application of heat into an expansive vapor, steam, having a force capable of driving great engines and draw long, heavy freight trains, and just as the latest energy residing in gasoline may be transformed by infinitesimal sparks into an expansive gas having a force capable of propelling automobiles, airplanes and submarines at a wonderful speed, so the latent energy in the blood seems by the injection of a few drops of the new serum directly into the veins, to be converted into "antibodies" which manifest their power and activity in a thousand ways, and in an amount out of all proportion to the tiny spark of substance that inaugurated their activity or set them on fire.

An interesting fact about this serum is that it cannot be made by the wholesale and sold as a patent medicine, because the patient's own blood must be used in making it. It is created on the basic principle that "like cures like," and the serum must be prepared individually for every patient.

In acute bacterial diseases it is now considered good practice the world over to secure when possible some of the germs causing the disease, and then inject them, after being killed by heat and suspended in a solution, into the patient whose sickness they caused. Doctor Rogers affirms that when he uses as a basis for his serum the blood of a patient suffering from a chronic complaint he undoubtedly collects some of these imperfect cells which are causing the disease.

The merits of this new treatment have been verified by many progressive physicians in various parts of the United States, some of whom have acquired a practical knowledge of the system by attending medical conventions in Kansas City, St. Louis, Chicago, St. Paul and New York, where Doctor Rogers demonstrated and explained his method. Others have become competent in using the method by visiting Doctor Rogers and taking a personal course of instruction under him. Some idea as to how this method is being received by the profession may be inferred from the fact that within two minutes after completing his demonstration before the annual convention of the American Association of Progressive Medicine at Kansas City, Doctor Rogers was unanimously elected president of that society.

Perhaps the most remarkable instance of a cure yet obtained by means of autohemic therapy was the case of a trained nurse, whose trouble was diagnosed as Hodgkin's disease, generally considered incurable. During the three and a half years preceding her visit to Doctor Rice, a physician whom Doctor Rogers had instructed in autohemic therapy, the patient had had five operations, one for appendicitis, one in which the stomach was resected, and three for removal of glands. She had lost 25 pounds from her normal weight and could neither eat nor sleep sufficiently to keep up. After the first autohemic treatment on October 1, 1916, her condition began to improve so rapidly as to astonish even Doctor Rogers himself. A second treatment was given a week later, and at the end of the third week she seemed so perfectly well that treatment was discontinued. After an interval, however, of six weeks, there were some indications of the return of the enlargement of the glands. Four other treatments a week apart were given, and since that time there has been no trouble of any sort. The patient regained all her weight, and is today the picture of health.

In speaking of autohemic therapy, a prominent New York physician said: "We all have known the therapeutic value of blood after developing certain antitoxins. All our artificial serums are products of blood serum. Modern medical science would be unthinkable without this weapon to fight the manifold diseases to which human flesh is heir.

"With all this knowledge, does it not seem strange that only now in the year 1916 the curative value of our own blood for our own blood for our own ills has just been discovered, or, speaking more accurately, been brought to our attention? Many of us are no doubt like a certain great scientist who, when this new discovery, autohemic therapy, was brought to his attention, said: 'This is absolutely scientific. For a long time I have known the facts upon which it is based, but I never thought of their practical application.'

"Doctor Rogers' discovery is not only a revelation, but a revolution, in the method of treating a large percentage of the ills of humanity. The applicability of this treatment seems to be coextensive with the function of the blood, and is capable, therefore, of acting upon disease in any part of the body in which the blood circulates, no matter in what form the complaint manifests itself, nor what name we give to it."

AMERICAN ADVENTURER IS GREAT DISCOVERER

One of the great American adventurers died recently. He was Col. Charles Chaille-Long, and his death received the same scant notice that had been awarded so many of his achievements during his lifetime. Soldier, author, diplomatist and explorer, he lived his seventy-five years as thoroughly as any man of his time. He knew four continents and he solved a riddle that had puzzled mankind for many years—the source of the Nile river.

As a youth, Chaille-Long fought with distinction in the Civil war, says the Kansas City Times. He entered as a private and came out a lieutenant colonel. Then he figured in a chapter of our history that is little known to the present generation—our military mission to Egypt. Khedive Ismail wanted to reorganize his army and he wanted the work done by men who would be free from the petty interests and intrigues of the various European countries, all of which were interested in northern Africa. The khedive obtained the co-operation of General Sherman, and in 1869 ten American officers—half of them Federals and half former Confederate commanders—were sent to Egypt. Chaille-Long was one of the party, and be became the widest known for his work in Africa. Some of the others of the party were Generals Loring, Libby and Stone, and Majors Morgan and Kennon.

Found Lake Ibrahim.

Chaille-Long came under the influence of the famous "Chinese" Gordon, then campaigning in the Sudan. He and Gordon designed the fortifications of Tel-el-Kebir for the defense of Cairo, and Gordon induced the American to explore the upper Nile. In two shallops constructed of tough bark Chaille-Long and two companions continued along the river until they found Lake Ibrahim, now known at Lake Choga. They found the bosom of the lake radiant with the great lotus, whose leaves are strong enough to support the body of a child. The party discovered that the river issuing from the Victoria Nyanza is the Nile, thus settling a question that long had troubled geographers.

On this trip Chaille-Long and his two companions, both Egyptian officers, were attacked by a force of several hundred natives. The explorers carried sheet-iron traveling cases, and barricaded in these they stood off the attacking force for hours, killing more than 80 natives.

Chaille-Long led several expeditions into Africa, conquering the Niam-Niam country and adding it to Egypt, and exploring a long stretch of the East coast of Africa that hitherto had been unknown to civilization.

Called Back to Egypt.

His health failing under the incessant hardships to which he had been subjected, Chaille-Long came back to this country in 1877 and studied law. He became an authority on international law, afterward teaching for a time in Paris. But at the time of the Sudanese uprising in 1881 he was besought by the American government to go back to Egypt and take charge of the consulate at Alexandria, from which all the other Americans had fled. He saved hundreds of lives during those troublous times, the consulate being made a refuge for all nationalities.

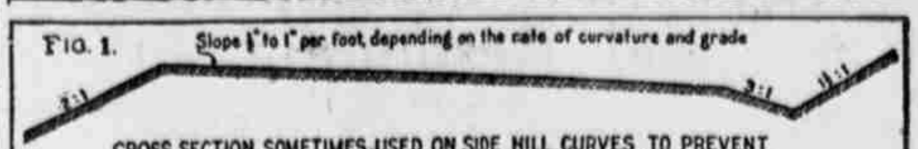
In 1887 Cleveland appointed Chaille-Long consul general and secretary of the legation in Corea. The man's restless energy again manifested itself in exploration and he made an overland trip to Seoul, discovering on the way the source of the Han river. Egypt called him again in 1890 and he spent eight years there, writing and exploring.

The honors that had been tardy in their coming began to be showered upon him then. Great Britain finally recognized his share in the uncovering of the secrets of the Nile and gave him equal rank with Speke and Baker. The American Geographical society gave him a gold medal, and he was made secretary for the Universal Postal congress at Washington and later secretary to the United States commission at the Paris exposition, 1900.

Chaille-Long wrote a number of books dealing with the lands he had explored. They are standard works upon the little-known regions of the world, but they brought him little revenue. Though half a dozen nations honored him with medals and titles, he died a comparatively poor man. His only reward of any consequence was the tribute paid him by "Chinese" Gordon, another of the great adventurers: "This man deserves to rank with the world's chief discoverers."

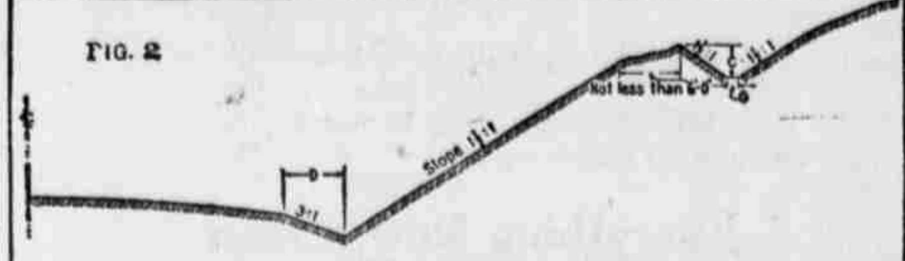
LOCATION AND DESIGN OF VARIOUS ROADS

FIG. 1.



CROSS SECTION SOMETIMES USED ON SIDE HILL CURVES TO PREVENT SKIDDING OF VEHICLES AND EROSION OF THE SLOPES.

FIG. 2



CROSS SECTION SHOWING BERM DITCH BUILT ABOVE SLOPE

Dimensions of the ditch are determined by the amount of water to be carried. "C" is generally 18" to 24" and "G" about 12"

(Prepared by the United States Department of Agriculture.)

The minimum width to accommodate safely two lines of average horse-drawn traffic is 14 feet, and for automobile traffic the width preferably should be not less than 18 feet, though a width of 16 feet is used frequently. In order to maintain the traveled way to the required width and to afford proper safeguards against accidents, it is necessary to provide a shoulder not less than three or four feet wide along each side of the roadway proper. The shoulders may have a somewhat steeper crown than the rest of the road surface, but they should be sufficiently flat not to endanger traffic using them and really should constitute an additional width of roadway. This means that the total width of roadway between side ditches never should be less than 20 feet where horse-drawn traffic predominates, and 24 feet where any considerable volume of automobile traffic is to be accommodated.

Where sharp curves occur in the alignment it is desirable, though not customary, to increase the width of the traveled way. A vehicle being drawn along a curved road tends to occupy an appreciably greater width than where the road is straight, and unless the width of the traveled way is increased correspondingly, this tendency contributes materially to the hazards that invariably accompany sharp curves. The minimum widths given above should also be increased on embankments of any considerable depth, so as to make maintenance easier and at the same time diminish the danger of accidents.

The width of right of way required to provide all necessary area for the roadway, slopes and ditches, varies considerably with the nature of the topography.

Grades.

In designing a public road one of the most difficult problems to solve properly is the question of maximum allowable grades. In deciding this question, the advantages to be gained by reducing all of the steeper grades on a particular road to a given maximum should be weighed against the additional cost which the reduction involves.

The following data and suggestions are intended to aid individual judgment, which necessarily must be the prime factor in solving this important problem:

1. The cost of average pleasure traffic, horse-drawn and motor, is practically unaffected by grades of not more than 6 or 7 per cent (six or seven feet rise per 100 feet, measured horizontally), provided the conditions are such that it is unnecessary to apply the brakes to vehicles when descending the grades. But for traffic where loads are as important as speed, even very light grades may be of considerable disadvantage.

2. Increasing the steepness of a grade decreases in three distinct ways the load a horse can haul: (a) for the same character of surface, the required tractive effort or pull per ton of load is increased by about 20 pounds for each per cent increase in grade, (b) the possible pull the horse can exert is decreased by an amount equal to the effort required to lift his own weight through the rise. This amount is approximately equal to one one-hundredth of the horse's weight for each per cent increase in grade, (c) the effective pull of the horse is reduced by the change in the angle at which the pull is applied.

3. The pull a horse can exert on a level road varies greatly with the individual animal, and is affected by the manner of hitching and the skill of the driver. The character of the road surface also may have an important influence by affecting the security of the horse's foothold.

Tests made by the office of public roads and rural engineering indicate that, on a level road, average farm horses untrained to the road can exert a steady pull for several consecutive hours equivalent to from 0.08 to 0.10 of their own weight without undue fatigue, and that by resting at intervals of from 500 to 600 feet they can exert a pull equivalent to about 0.25 of their weight, provided the foothold is good.

4. The tests referred to above also indicate that with a well-constructed wagon the pull required to move a gross load of one ton over a level road varies about as follows:

	Pounds.
Loose sand road	315
Average dry earth road (varies greatly)	150
Firm earth or sand-clay road	105
Average gravel road	80
First-class gravel or macadam road	55

In general, the judgment should be largely influenced, in fixing the maximum grade, by the topography of the region which the road traverses. According to the best current practice, where the road is or is expected to become of sufficient importance to warrant a highly improved surface, the maximum grade usually is fixed with reference to this feature about as follows:

	Per cent.
Coastal plain and prairie regions	2 to 3
Average rolling country	4 to 6
Hilly or mountainous regions	6 to 8

The question of minimum grade is of importance only as regards the side ditches. These should have adequate fall to empty the water that collects in them at a sufficiently rapid rate to prevent damage to the road. Ordinarily it is desirable to give the side ditches a fall of about one foot per 100 feet of length, though a somewhat less fall has proved satisfactory sometimes.

Wherever changes in grade occur the change should be made by means of a vertical curve, and not by an abrupt angle.

Slopes.

The slope at which earth will stand when faced up in a cut or placed in an embankment depends (1) on the character of the earth and (2) on the climate. In cuts, a good quality of non-slaking clay usually will stand on a slope of about 45 degrees, or, as slope is expressed usually, one horizontal to one vertical, even where fairly deep freezing occurs, and in some of the Southern states such material has been known to stand for many years on a slope of less than one-half to one. On the other hand, clay that slakes very easily, may require a slope of three to one, or even four to one, under the most favorable condition of climate, but this latter extreme is very unusual. The usual slope for clay in cuts is one to one in warm climates and one and one-half to one in cold climates.

While in the case of embankments clay usually can be deposited on an initial slope of about one to one, this steep slope seldom can be maintained unless the material is of an exceptional quality and the climate very favorable. Ordinarily clay embankments should have a slope of about two to one in cold climates and at least one and one-half to one in warm climates; and if the clay be of questionable quality these values should be increased. Embankment slopes require more care in construction than excavation slopes, because any flattening of an embankment slope by the action of weather after the road is completed is very likely to damage the road surface; while the sliding in of excavation slopes usually does no further damage than to obstruct the side ditches, which can be reopened readily.

Sand of average quality usually requires a slope of about two to one in cuts and three to one in embankments, regardless of climate. Moderately coarse sand mixed with gravel will stand on a steeper slope than fine sand, because the former is not moved so readily by the action of storm water.

Solid rock excavation usually can be done on an average slope of about one-fourth to one, except where the rock occurs in sloping strata separated by slippery clay seams. In the latter case the average slope may be as much as one-half to one or three-fourths to one. The faces of rock cuts usually are not dressed down to even an approximately smooth slope, as is done in earth cuts. In excavating solid rock only such material is moved as is actually necessary to obtain the desired width at the bottom of the cut or as has been loosened in blasting. The faces should, of course, be cleared of all material which is loose, or which might be loosened subsequently by frost and slide down upon the road. Stone embankments usually will stand on a slope of about one to one.

In order to prevent damage by washing all earth slopes in either excavation or embankment should be protected by a growth of grass as soon as practicable after they are formed.

In many localities where the soil is fertile and a good quality of grass is native no seeding of the slopes is necessary. In other cases the soil may not possess sufficient fertility to grow grass, even when the slopes are seeded, and in which event it may be very desirable to cover the slopes with cut sod. This latter process usually is very expensive, and should be employed only where it is known that thorough seeding and fertilizing would fail to secure a covering of sod.

Another precaution frequently necessary in order to prevent the washing away of excavation slopes is to intercept water from the natural ground surface which otherwise would flow down over the excavation slope. This is done by means of a "berm" ditch constructed well back from the top of the slope. Figure 2 illustrates a condition which makes a "berm" ditch desirable and also shows how such a ditch is constructed.