Physical Characteristics of the Runner and Jumper.

The object of this report is to present some physical differences which the successful track athlete possesses, and which is the basis of his superiority.

To note these differences of bodily structure is essential in order to attain the various measurements of typical athletes, and compare these with the average student, sometimes a thousand students which have been compiled at some of the large universities. This compilation is made with the typical man as represented by the proportions of the male figure in art. The results at Yale University have been chosen as typical for the first comparison, the information and averages being kindly furnished by Dr. Jay W. Seaver, head of the physical training department at Yale.

In the following table the first column contains averages from 12 M. students between the ages of sixteen and twenty-seven. The second column contains the measurements of the five Michigan Agricultural College winners of the first places in the following events in the Michigan Intercollegiate Athletic Association, the two winners in the bicycle races not being included; running high jump, pole run, running broad jump, half-mile run, mile walk, hop step and jump, standing broad jump, jumping, and throwing shot. All the jumps were won by two men, both of whom are also good runners, and who started in the hundred yard and 220 yard races. One took second in the 220, and third in the 100.

The third column in table one gives the average of 20 per cent. of students in Yale classed separately on basis of height.

1. We find that the A. C. track athlete is over two inches taller than the average student, only 20 per cent. being as tall, while he is considerably under weight according to his height. This gives the athlete the advantage of height with which he should be armed in spite of the average man, while at the same time he has greater strength and agility by reason of his training. The sitting height or length of the legs as shown in the third column, amounting to 5 to 10 inches. For athletic purposes especially running, jumping, this gives him a decided gain, as even a quarter inch longer reach at the pole would win any race, other things being equal.

2. But perhaps the most striking and significant difference is found in the length of the legs, which in the athlete is just one inch longer than in the average student on the average. The lower and leggers were in proportion according to the lower leg he would have the astonishing length of 35-1/2 to 36 inches as his leg measure. We find then that the extra length is not equally divided between the thigh and lower leg, but that the lower leg is actually two-tenths of an inch shorter than that of the average while the average height of the lower leg is a full inch longer. A longer lower leg and a shorter thigh give animal a quick action, and a long and reach with the lower leg, thus providing at the same time for quickness and reach with the endurance of strength.

The latter point is easily seen when it is considered that a runner brings his legs forward and upward with the knee bent, and then throws his foot forward with a long reach from the knee across, and reach with the full swing of the strength. The most phenomenal athlete in the U. S. has more than 20 inches extra leg length to such a marked degree that they are plainly evident in his full length picture.

3. The arm stretch is also an inch longer, and three and one-half inches longer than his own height. The height and arm stretch are the same according to the art table of proportions. An extra reach length of arm gives the athlete a full inch more freedom of movement and therefore more powerful swing in both running and jumping.

4. The breadth of the shoulders is one-half inch less and equal breadth the hips are three-tenths of an inch narrower than in the average. We naturally expect that the circumference of the hips would also be less, but we are surprised to find that the M. A. hip girth is actually larger than in the average student of equal height. This is owing to the development of the muscles of the hip and thigh consequent upon training and the unusual arrangement of the muscles. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. The latter point is lacking, a peculiar origin being his full strength, has little extra weight in places where it would be a marked degree with the athlete who won the mile walk. His waist and abdominal muscles were also to such an extent that the waist line was hardly visible.

5. The arms of the young males and of the hands are in general smaller than the average. Here is one place where a large girth does not help an athlete except in weightlifting.

6. The thighs are nearly as large as the average while the calves are shorter. This is a peculiarity shown by the majority of jumpers and runners. The thigh and calf muscles are the chief ones for running and jumping. Another fact in connection with the origin and insertion of muscles is of such importance as girth or extra length of leg. For example, in the majority of our athletes, and especially in the walker, the upper side thigh muscle, the tensor vaginae femoris, rises higher up and farther forward than the crest of the bone, thus unusual, so that it entirely covers the tibiotarsus or hip joint. This gives the operator and power, but the point of origin and insertion of different and strategic muscles give the basis for the superiority, but when taken in connection with the extreme length of certain bones, then we have an exceptional athlete.

7. The neck is smaller than the average. This at first sight lead us to expect that the circumference of the hips would also be less, but we would naturally expect that the circumference of the hips would also be less, but we would naturally expect that the development of the muscles of the hip and thigh consequent upon training and the unusual arrangement of the muscles. The latter point is lacking, a peculiar origin being the greater development of the hip and thigh consequent upon training and the unusual arrangement of the muscles. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. The latter point is lacking, a peculiar origin being the greater development of the hip and thigh consequent upon training and the unusual arrangement of the muscles. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. The latter point is lacking, a peculiar origin being the greater development of the hip and thigh consequent upon training and the unusual arrangement of the muscles. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion. The latter point is lacking, a peculiar origin being the greater development of the hip and thigh consequent upon training and the unusual arrangement of the muscles. Narrower hips with a large circumference give the athlete less weight of bone with a greater mass of muscles to perform in proportion.

8. The hands are one-tenth of the height. 9. From the point of the elbow to the first point of the hand is one-tenth of the height. 10. The usual is to render them capable of exception. The results have been taken so as to designate the type of the runner and jumper, and what is the body structure at a glance. The special athlete is meant to be suggestive, but at the same time its use is still more beneficial. A special athlete is in proportion to most sports in the girths and proportions as well as the bony structure and peculiar origin and insertion of various muscles, and these are the things which cannot be materially changed by any system of physical training or otherwise.

The second table of averages with which we will make a brief comparison is in the Greek table of art proportions which are the standard today for the art schools. The table is based on the work of Vitruvius, the second being Jonathan Scot, Hartley's Anatomy in Art, and a third table is based on the Greek table of art proportions. The rules are based on the length of the head measured from the base of the chin to the vertex. The height of the figure should be eight heads. 2. The pubis is the center of the body, the points of the shoulder heads and legs, the head of it and the results are more beneficial. The special athlete is meant to be suggestive, but at the same time it is still more beneficial. A special athlete is in proportion to most sports in the girths and proportions as well as the bony structure and peculiar origin and insertion of various muscles, and these are the things which cannot be materially changed by any system of physical training or otherwise.

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THE M. A. C. RECORD.

THE MICHIGAN AGRICULTURAL COLLEGE.

EDITED BY THE FACULTY.

Entered as Second Class Matter at Lansing, Mich.

SUBSCRIPTIONS SHOULD BE SENT TO THE SECRETARY: AGRICULTURAL COLLEGE, MICH.

SUBSCRIPTION.--50 CENTS PER YEAR.

THE M. A. C. RECORD.—Nov. 13, 1900.

Physiological Characteristics.

(Continued from first page.)

TABLE I.

<table>
<thead>
<tr>
<th>Average Height</th>
<th>Length of arm from hair to wrist</th>
<th>Length of arm from shoulder to wrist</th>
<th>Length of arm from elbow to wrist</th>
<th>Length of arm from wrist to tip of fingers</th>
<th>Length of foot from heel to arch</th>
<th>Length of foot from arch to tip</th>
<th>Length of foot from heel to toes</th>
<th>Length of foot from arch to heel</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 feet 3 inches</td>
<td>30 inches</td>
<td>24 inches</td>
<td>13 inches</td>
<td>3 inches</td>
<td>11 inches</td>
<td>5 inches</td>
<td>11 inches</td>
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Howard Edwards.

Campus Notes.

About 15 students were at work Saturday digging the ditch for the steam pipe line to the women's building heating plant and the new dairy building.

The bust of Horace Mann who stood upon the long time in the top of the farther case in the pasting room, fell to the floor Saturday morning without apparent cause and was broken into fragments.

Dr. Beal has received a set of questions in botany from Hon. H. R. Puttengill which he is requested to answer. The questions will be published in the Michigan School Monitor for the benefit of Michigan teachers.

At the last meeting of the Tau Beta Pi Mr. A. H. Case, '02, was initiated into that fraternity. Mr. Case ranks first in his class and in consequence is the first junior to be admitted to membership.

The King's Daughters will meet next Wednesday evening, in the agricultural building, the class officers who will distribute them to the students.

The Dairy Building is nearly completed. Everything will be in order at the beginning of the year. The building is to be heated from the dairy plant of the women's building.

At the Farmers' Club next Wednesday evening, in the agricultural building class room, Dr. R. C. Kedzie will enter into a discussion on "The Farmer's Felelizer." Everybody is invited to come, by talking about "The Farmer's Felizer."

The first term reports have been sent out to the class officers who will distribute them. Reports will all be sent to the parents of students. Some of the class officers observe that while

THE M. A. C. RECORD.
there are numerous instances in which students do not rank in classes as high as would be desirable, the reports at the close of the first half term showed a much smaller number of failures than were reported one year ago.

The young ladies of the Women's Board have recently elected a "house committee," of which Miss Celia Harrison, '01, is chairman. The other members are Miss Margaret Nolan, '02, Miss May Kyes, '03, Miss Besse Buskirk, '03, and Miss Elma Bowserman, '94. This committee has general charge of social functions, etc., in the hall, and may request the dean to call a meeting of the students whenever a discussion concerning matters of government, club boarding, etc., is needed.

A new and interesting feature of the five-year mechanical freshmen work this year is their visits of inspection. The class is divided into several squads, and each squad, under the direction of one of the instructors of the department, is required to make several tours of inspection during the term, careful notes being taken on the things observed. The different manufacturing plants in Lansing, and the College heating, lighting, and electric plants are being inspected by these squads. The principal object is to familiarize the students with different forms of machinery and mechanical terminology.

A Compliment to our Domestic Art Course.

On Saturday morning last a message by long distance southward in the fall. He gave the causes of migration, which he claimed in many cases was lack of food. "Some," he said, "travel southward in flocks at right angles; others travel over the day; some species fly several hundred miles a day and others only a few miles." He brought out a number of valuable facts about the habits of birds.

Freshman having just received his standings rushes Hughes about among his fellows. "What does P mean? Do you know what P means?"

A number of young ladies from the campus and from Lansing enjoyed a social hop in the Olympic Society rooms last Friday evening.

"Each one of those Senior girls will go at once." A preacher "down south" is reported to have said: "Life, my brethren, am mostly made up of praying for rain, no! then wishin' it would drizzle all..." - Ex.

SIMONS DRY GOODS GO.

Opening September Sale.

Of the NEW FALL STYLES in

DRESS GOODS,

SILKS, GLOVES,

JACKETS, SKIRTS,

WAISTs and

UNDERWEAR.

Furniture Headquarters.

COMPLETE LINE OF FURNITURE FOR STUDENTS' ROOMS.

Woven Wire Sprays at

$1.50, $2.00 and $2.50

Woven Wire Cots at

$1.75, $2.00, $2.50 up

Mattresses at

$40.00; Soft Coal Air-Tight Stoves

$16.00 to $25.00; Base

$40.00; Soft Coal Air-Tight Stoves

$25.00 to

Burner Coal Stoves $25.00 to

$18.00; Air-Tight Wood Reservoir $16.00 to $25.00; Base

$1.50, $1.75, $2.00 up

Arm Chairs at

$5.00, $7.50, $10.00

Students Tables at

$1.50, $2.00 and $2.50

WE ARE IN POSITION

TO SAVE YOU MONEY ON

OVERCOATS.

And at the same time give you a garment unsurpassed for Fine Tailoring and Correct Styles.

Elgin Mifflin.

NORTON'S HARDWARE.

HOLLISTER BLOCK;

104 Washington Ave. South.

WE ARE IN POSITION

TO SAVE YOU MONEY ON

OVERCOATS.

And at the same time give you a garment unsurpassed for Fine Tailoring and Correct Styles.

Elgin Mifflin.

Full Dress... finest imported patent leather—black as midnight—soft as silk—the shoe for social functions or light street wear.

We sold this grade of shoes a few years ago at 60 cents a pair. We wish to double our sales on this shoe, and this year we make the

Price $5.00, $4.00 and $3.50.

Dancing Pumps at $1.50.

C. D. WOODBURY,

HOLLISTER BLOCK.
Grant Allen's Father.

J. A. Allen, father of the noted novelist, Grant Allen, died Oct. 7, of old age in his 67th year. The death of his famous son, which occurred a few months ago, had preyed heavily upon his mind. The old man was born in Ireland, and in his youth married a daughter of the Baron de Longueil, possessor of the famous son, which occurred a few months ago, had preyed heavily upon his mind. The old man was born in Ireland, and in his youth married a daughter of the Baron de Longueil, possessor of Canada, besides much other property.

In 1850 he emigrated to this country, and settled in Iowa, where he lived the life of a country gentleman, and died the 29th of November, at the age of 87 years, leaving a widow and four children.

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