

Strange Tales Told by Athletes' Faces.

Rage, Grief, Astonishment Depicted During Exertion. Expressions That Betray Dangerous Strains.

Sculptured by R. Tait McKenzie. Copyright by W. R. Saunders

BY RENE BACHE.

"BIG TOM" SHEVLIN, famous Yale football coach and one of the mightiest gridiron men ever turned out by that university, died the other day. A miserable little pneumonia germ killed him.

He was only 23 years old, but already he had built up a fortune of \$2,000,000 in the lumber business. Everything that makes life worth while was within his reach.

The struggle with the pneumonia germ was brief. It was soon over, and Shevlin, the giant in strength, the man of perfect physique, was dead. Why did he succumb so quickly and so easily?

"Very likely it was too much football," said Assistant Surgeon-General W. C. Tucker, of the United States Public Health Service. "His heart may have been weakened. Too much athletics is dangerous. Violent exercises make a great demand upon the heart, and in consequence that vital organ becomes unduly enlarged. Later on, particularly if the athlete drops into a sedentary mode of life, its tissues may undergo degeneration.

"Too much athletics has a tendency to shorten life. Undue strain impairs the vitality and lowers the power of resistance to disease. Along comes pneumonia, perhaps, and the weakened heart is not able to stand up against it. Excess of physical effort, too, may weaken the arteries, and thus very seriously impair the constitution—possibly engendering arterio-sclerosis in later years."

Now, the most interesting of recent studies on this subject have been made by a distinguished Philadelphia physician, Dr. R. Tait McKenzie, who finds in the faces of the athletes themselves the most striking and convincing evidence of the severity of the

strains to which football and other sporting contests subject them.

Take, for example, the face of the young man who at the moment is engaged in sprinting, in throwing the hammer or in "spurtling" in a distance race. It is like the face of an angry wild animal—ferocious, repulsive. The expression is undistinguishable from that of extreme rage.

The nose and upper lip have a snarling expression. The nostrils are distended and the lower lip is drawn tightly across the clenched teeth. The great skin-muscle of the neck—the muscle of emphasis in violent action—springs into relief and stands out in cords. The whole expression is that of one in readiness to seize and tear an enemy.

Obviously, no such emotions are entertained by a youth who, for instance, is trying to cover 100 yards in 10 seconds. But the very fact that the human face under such circumstances exhibits such extraordinary phenomena of expression is the best evidence in the world of the violence and severity of the strain to which the body, and incidentally the nervous system, is subjected.

In the early part of a long-distance race, and before the runner has got his "second wind," he is likely to suffer from breathlessness. His face then assumes a look that counteracts pain or deep sorrow. If, at the end of such a contest, he is overcome (as is usually the case) by exhaustion, his expression is exactly that which would under ordinary circumstances denote surprise or astonishment.

These facial expressions, imitative of emotions that are not felt, afford a most curious study. In a way, they are susceptible of analysis. Thus the look of snarling ferocity indicates, in the athlete, violent effort. There is



a converging of wrinkles to the root of the nose, with wrinkles across the bridge. The frowning brows are drawn down and the eyes narrowed to mere slits. At the outer angle of each eye is a "crow's foot" of wrinkles, made by an effort of the muscles to close the eyes.

It seems quite odd, when one comes to think of it, that in any kind of violent effort the eyes are shut or nearly shut. The sprinter would shut his eyes if he could do so and yet see the running track. The hammer-thrower often does close his eyes tight at the moment of greatest effort. In shouting, sneezing, crying or laughing we close our eyes.

Dr. McKenzie explains this by saying that when any violent effort is made there is a muscular contraction of the chest walls which compresses the heart and lungs, thereby driving up the blood pressure to a point that may endanger the delicate blood vessels of the eyes. If distended beyond a certain limit they might burst; but the muscles used for closing them contract the vessels and force the blood back.

When a runner is trying to cover 100 yards in the fewest possible number of seconds, there is no question of breathing. He takes a big breath at the starting line and holds it. Throughout the "sprint" there is an intense concentration of attention. The whole muscular system is convulsed with supreme effort, and the blood pressure rises, just as it does in throwing the hammer or "putting" the shot.

If, on the other hand, the runner, instead of trying to cover the 100 yards in 10 or 11 seconds, is satisfied to do it in 20 seconds, there is no nervous tension, no muscular convulsion, little change in the blood pressure and the face remains calm and smiling.

The face of breathlessness is wholly peculiar and definitely characteristic. Its expression is one of anxiety, eloquently telling of thirst for air. The smoothness of the forehead is broken by wrinkles, spreading from the inner ends of the updrawn eyebrows—the direction of the eyebrows being just the reverse of that seen in violent effort. They are drawn upward and inward by what the French call the "muscle of pain," whose action is observed in grief or in distress of any kind, mental or physical.

The upper eyelids of the runner "out of breath" droop and half cover the eyeballs, giving a look of lassitude. The nostrils are widely dilated and the mouth gapes, with lips retracted in the struggle for air. The raised upper lip adds to the look of sorrow and pain; and the down-drawn mouth corners, and the tongue closely pressed against the teeth, the sunken cheeks and the open mouth all go to accentuate the effect of distress.

The distress is caused by poisoning. The efforts of the runner have thrown into the blood from the muscles a quantity of waste that acts as a poison. As the distance race is continued there is re-establishment of equilibrium between the production of waste and its elimination, so that the athlete gets what he calls his "second wind." The look of pain disappears from his face; his lungs regain their power to expand; his head becomes clear, and his muscles act with renewed vigor and elasticity. He can now keep on running until he feels the symptoms of exhaustion.

When exhaustion arrives (as it must before the end of a long-distance race), it has its own characteristic evidences in the expression of the face. The eyebrows show a slight frown; the eyelids are heavy, as with sleep; the upper lip is retracted from the teeth, giving a slight look of pain; the mouth is half open; the jaw drops and the lower lip hangs loosely over the parted teeth. The general expression is one of vacancy, the runner being obliged to make much effort to prevent his eyes from closing, as a consequence of increasing paralysis of the muscles of the upper lids.

The long, doubly curved wrinkles across the forehead are ordinarily associated with surprise or astonishment, but in the exhausted runner they illustrate an endeavor to raise the drooping eyelids. The nostrils are dilated,

and the lips drawn downward and outward, the lower part of the face expressing the distress of failing power to breathe. The head is thrown back and the chin forward in an endeavor to balance the head without muscular effort. Both pose and facial expression are characteristic of the last struggle to fight off collapse. When this effort is continued to the final utmost the muscles cease to act; circulation fails; the runner's face turns pale and his lips livid. He falls to the ground in a faint.

The effect of such collapse does not pass away for days. The athlete is tired; his temperature may rise several degrees; his nights are sleepless or disturbed by dreams. Soreness and stiffness of the muscles remain for quite a while, but gradually fade away as the constitution recovers its tone.

It often happens that athletes in training incur each day more fatigue than they can recover from during the nightly periods of rest. A gradual and progressive exhaustion overtakes them. They lose weight; the skin becomes pale and flabby, and the eyes dull and listless; the muscles lose their elasticity, and every effort becomes a burden. It is then said that they are over-trained, or (to use a common term) that they have "gone stale." The plain fact is that they are suffering from chronic fatigue. The nervous system

is profoundly affected and recovery may be a matter of weeks.

Dr. McKenzie says that exercises of endurance are much better for the cultivation of constitutional vigor than exercises of intense and concentrated effort such as sprinting or hammer-throwing. In the endurance class are

walking, distance-running and rowing. If exercises of effort are carried too far the muscles will refuse to contract, or may actually tear.

If muscles are habitually overworked they may atrophy and become weak. When over-developed they become "parasites on the vitality," which is sapped in the struggle to provide for their nourishment. A man's muscular system may be developed to such an extent that he looks as if clad in a suit of armor too heavy for him to wear. It is notoriously a fact that professional athletes commonly are not long-lived.

A by-product of muscular work (as already explained) is waste matter, which, being poisonous, gives rise to the effect we call fatigue. But in exercises of endurance the waste is produced much less rapidly than in exercises of effort. Breathlessness is one

form of fatigue. It represents an acute poisoning. In a long-distance race, if the pace is slow enough, the runner may escape it; but sooner or later the products of tissue waste accumulate; the heart beats fast and weak; the nervous system is stupefied, and the muscles relax. Indeed, long-continued physical exertion may end in death, as happens sometimes with soldiers after forced marches.

Dr. McKenzie picks out the runner as illustrating to advantage the various phenomena that he would discuss. But the same remarks apply to other forms of muscular exercise and effort. The moral drawn is that athletes are most desirable as a means of cultivating the physique and improving constitution vigor. But, carried too far, they endanger health and may shorten life.

DANCER TRADED FOR WAR PRISONER.



Nijinski

NIJINSKI is the dancer exchanged for Dr. Robert Barany, winner of a Nobel prize. So says the report from Vienna. Nijinski is the famous Russian dancer, member of the Diaghileff troupe which is in New York. Nijinski is the most famous male dancer of the Imperial ballet. Without him the company would have

been weakened greatly. Diplomatic effort was used to have him released from internment in Austria. Meantime Dr. Robert Barany, interned in Russia, received the award of the Nobel prize, but could not enjoy its honors among his friends and countrymen. Then Baron Burián has suggested that if Russia would let Dr. Barany come home, Nijinski would be released.

Wireless Weather Service

ATTENTION is called in the annual report of the Chief of the Weather Bureau for the fiscal year ended June 30, 1915, to the desirability of establishing wireless methods of communication in those regions of the country which are subject to floods and destructive storms. One of the first effects of such disturbances is to cut off communication by telegraph and telephone at the very time when it is most needed; and in a few rare cases it has been possible to reach otherwise isolated regions only through indirect and roundabout communication by wireless agencies. The general establishment of such means of communication seems to present the only way in which complete interruption of communication can be prevented, not

only for the purpose of disseminating reports but also for the purpose of receiving knowledge of the forthcoming weather conditions that is now disseminated from Arlington and other radio stations under the control of the Navy Department. In addition to the dissemination of warnings of destructive storms by wireless agencies, the daily weather forecasts are being distributed in an experimental way in this manner from three places in Illinois and also from one station in North Dakota.

The report also states that there are many applications for extensions of the Weather Bureau service. These include requests for river and flood warnings; frost and cold wave information; for protective work in the interest of the fruit, tobacco, truck and

garden crops; and for additional information in regard to the water resources of sections in the West, where the reporting stations now in existence are not sufficient to cover the country adequately. Extensions of the service in the grain, cotton, sugar and rice regions are also desired.

At the end of the fiscal year there were in operation 214 Weather Bureau offices. Of these 197 are classed as fully equipped stations. In addition there were more than 4500 co-operative observers whose work, the report says, shows a conscientious desire to render the best service possible.

For some years past the Weather Bureau has sought to determine each Spring the probable amount of water contained in the snow cover of the higher altitudes that may become available for irrigation and other purposes later in the year. One of the chief difficulties in the way of this work is the fact that the higher alti-

MIKADO RIDES IN HEIRLOOM CARRIAGE USED BY FATHER.



Yoshihito, Mikado of Japan.

WHEN Yoshihito was recently made the Mikado of Japan at the formal coronation ceremony, Kioto the photographer was allowed to come close enough to get a good likeness of him. It is said it is not only at the latter's coronation. In this old the only public photograph made, the carriage Yoshihito allowed the only

photograph of him to be taken in public. The carriage is not unlike the old cabs used by public officials of the United States 25 years ago on formal occasions, except that the carriage for the Emperor were lacking in the American vehicle usually.

of the Emperor during the coronation period. The carriage is not unlike the old cabs used by public officials of the United States 25 years ago on formal occasions, except that the carriage for the Emperor were lacking in the American vehicle usually.

tudes are frequently uninhabited during the Winter, and information can be obtained in regard to the conditions which prevail in them from a few isolated points only. The number of these places is gradually becoming less, as mining camps and other enterprises are being abandoned. For this reason the bureau has adopted the plan of intensive surveys in small watersheds, and during the past year carried out three such surveys—one in the City Creek watershed near Salt Lake City; a second, in the watershed of Cottonwood Creek, a tributary of the Boise River; and a third, in the watershed of Sand Lake, Carbon County, Wyoming.

The report also calls special attention to the extension of the snowfall work in the watershed of Salt River in Arizona. The demand for information in regard to the amount of snow water available for irrigation purposes above the Roosevelt Reservoir made itself felt some years ago. A preliminary survey was made in November, 1913, and a second survey in April, 1914. In 1915 two attempts were made to reach Paradise Creek, and although in neither case was it possible to accomplish all that had been hoped, it was determined that the snowfall for the Winter of 1914 to 1915 in the mountains of Eastern Arizona was extraordinarily heavy. The work thus far accomplished, it is said, can only be considered as preliminary to a more general campaign.

The weekly forecast, which was suspended for a time because of the interruption of foreign meteorological reports due to the European war, was resumed in April, 1915, in a modified form. This forecast is now prepared and issued Tuesday forenoon for the week beginning the following Wednesday. It is sent immediately to the press associations, and selected portions are telegraphed to distributing centers, where they are printed on cards and distributed by mail to rural newspapers and individuals.

Quakes and Solomon's Temple.

Christian Herald.

Solomon built the temple about 970 B. C. In less than 100 years Joash found great difficulty in arousing the people to attend to the repairs of the cracking and tumbling walls and the decaying timbers.

The causes of decay were earthquakes, or light shocks, which occur every year, the action of frost in districts and elevations where that occurs, the dry rot in the beams which followed the action of the rain or dampness; but, greater than all, the action of roots. I write these lines within sight of the massive fortifications of the Crusaders on the Island of Rhodes, and can see several big trees growing from crevices in the ancient walls, the roots of which must in the course of years add still other cracks to the decaying ramparts,