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# THE EDUCATIONAL LEADER

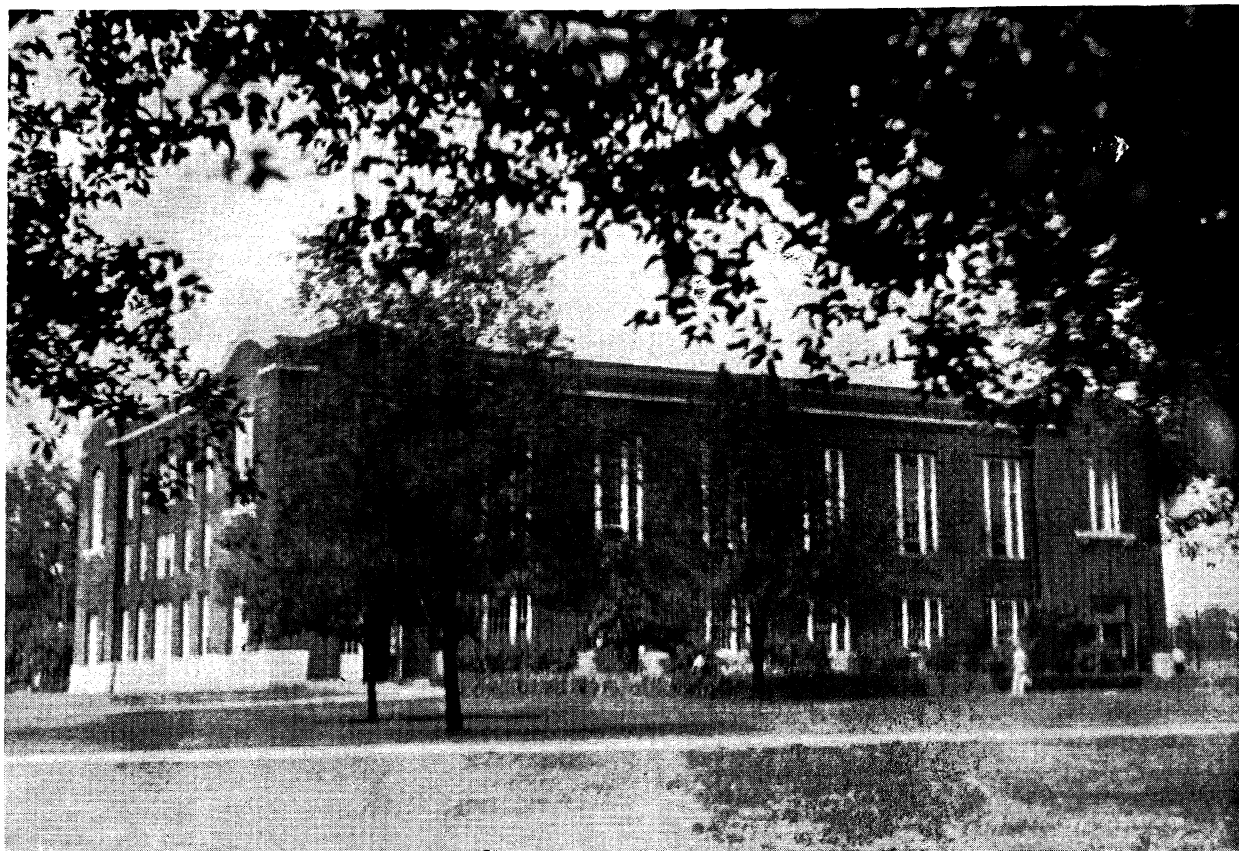
HEALTH AND PHYSICAL EDUCATION  
and BIOLOGY NUMBER

Published by the Faculty of the  
KANSAS STATE TEACHERS COLLEGE  
PITTSBURG, KANSAS

Vol. 2

MARCH, 1939

No. 3



Gymnasium, Kansas State Teachers College.

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# The Educational Leader

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# The EDUCATIONAL LEADER



Vol. 2

MARCH, 1939

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## The Laws of Life

ORIS P. DELLINGER

There is no alleviation of the miseries and suffering of mankind except through absolute veracity of thought in action. Knowing right, willing right, doing right are the only guarantees of happiness and well-being. Life comes through response, but this response must be in accordance with the laws of nature. The welfare of the individual and the permanence of the civilization he builds depend on how fully he knows these laws and how faithfully he obeys them in the life he lives and the social structure he builds.

Mankind has slowly discovered the laws of nature. Lives lived and civilizations built in harmony with these laws have always been successful, while lives lived and work done in opposition to them are futile. We discover laws in order to obey them, to bring our lives in harmony with them. Ignorance cannot in the nature of things alleviate the consequences of breaking laws. To fail to learn the laws of life and to use them in the lives

we live and the civilizations we build is inexcusable carelessness.

Although we should never cease our efforts to make new discoveries, the need of man today is not more knowledge but a more universal distribution of the knowledge he has and a willingness to live in harmony with what he knows. Especially is this true of the laws of life.

In the physical world man has learned how to apply his knowledge in the control of the powerful physical forces of nature which so intimately affect his welfare and well-being. His application of his knowledge of physics and chemistry has given him security, comfort, and well-being beyond the dreams of early mankind. He has been slower to learn the laws of life and even more reluctant to apply the knowledge he has of them to the forces of living nature. Yet these powerful forces affect, in so many ways, the lives of all, that every member of civilized communities should learn them and live his life in compliance with them. While man has gained much in happiness

and well-being through his discoveries of the laws of life and his obedience to them, there is still too much misery, suffering, preventable illness, and death because of man's ignorance or his unwillingness to do the best he knows. An examination of the materials of education indicate that civilized society teaches its youth almost everything before it teaches them the laws of life, yet there is no "alleviation of the miseries and sufferings of mankind except through knowing right, willing right, and doing right." Hence, the law of life should be a part of the education of all young people.

#### THE WEB OF LIFE

Although Christ clearly annunciated the law of the web of life when he said "The very hairs of your head are all numbered" (Matthew 10:30), it remained for Charles Darwin to impress upon the world its importance in all phases of life. He pointed out that the beauty of the flowers and their perfume, so much enjoyed, are explained in the part insects play in pollination, and that many of the structures of the insect are explained in their adaptation to this same end. He went so far as to say, also, that old maids are responsible for the red faced Englishman because old maids keep cats, cats kill mice, mice kill bumblebees, bumblebees fertilize clover, and clover feeds the cattle that furnish the beef which causes the ruddy cheeks of the Englishman. Jack London in one of his stories illustrates the working of the

web of life in the far north by pointing out that as the caribou increase the wolves increase; as the wolves increase the caribou begin to decrease; as the caribou decrease the wolves, because of lack of food, begin to starve and decrease; as the wolves decrease the caribou begin to increase, and the whole cycle is repeated.

But the law of the web of life comes closer home. When first discovered by white men the south central portion of the United States was covered with vegetation. As man came in with his plows and herds of cattle, sheep, and goats, the vegetation disappeared. Soil was depleted of its fertility, drouth and deserts appeared, dust storms swept the length and breadth of the United States, and even the washer women in Boston had to do their washings over. A knowledge of the law of the web of life, if applied to this vast region, would have prevented an almost national catastrophe. Instead of this area being the great American desert, it would be supporting in comfort an abundant life.

Kansans today are plagued with the depredations of insect pests, drouths, and floods, and a great state has been made a less desirable habitation for man because the law of the web of life was ignored during the past half century. It will cost a great deal of money and there will be much suffering and hardship before the balance of nature is re-established and Kansas again

becomes the Quivira<sup>1</sup> of the new world.

In the differentiation of the functions necessary to living, in the building of his modern community life, in the forms of government he has initiated, and in the civilization he has built, man has fabricated an intricate structure of social life which weaves all of the civilized people of the world into its web. In this web the welfare of all society is the welfare of any group, and the behavior of any individual or any group becomes the concern of the whole of society. No individual or group of individuals in any nation of the civilized world can break a thread in the network in our social life without its disturbing the web throughout the world. We have had so many examples of this in the last few decades that further emphasis upon it should be unnecessary. One of the best examples of the far-reaching effect of the behavior of an individual on the web of life throughout the world was given when Gavrilo Princip assassinated Archduke Francis Ferdinand of Austria, June 28, 1914, or more recently when a young Jew killed a German Embassy Secretary, Ernst vom Rath, in Paris. In a larger way the national behavior of Russia, and later Germany and Italy, threatened to destroy the whole woof and warp of our civilized life. We may feel in America that we will never be drawn into another world war, that the affairs

of Europe are no concern of ours, that our industrial, social, and economic life will go on undisturbed whatever other nations may do. However, if we had a clear conception of the law of the web of life, we would know that the behavior of other national or racial groups, or even the behavior of any one individual in any foreign country, might disturb the tranquility of the smallest unit of our community life. My belief in missions is based on my belief in the law of the web of life. I want to save my shoemaker's soul because he will make me a better sole. I want to save the soul of some heathen because I believe his behavior may some time affect me or my children.

#### THE LAW OF REWARD AND PUNISHMENT

When I was a boy most people believed in an old fashioned heaven and hell, a heaven which was a reward for many more or less doubtful virtues, a hell which was a punishment for a whole category of wrong doings. Hell was far more real than heaven, and it had a much more restraining influence on my behavior than the hope of heaven had in initiating right action.

As a young biology student I got another viewpoint of the law of reward and punishment. I learned that misery, suffering, and death were not so much punishment as the inevitable price of wrong responses, that life, health, happiness, and well-being were not so much the reward as the inevitable result of right responses, and that nature

<sup>1</sup>William E. Connelley, *Kansas and Kansans* (Chicago: Lewis Publishing Company, 1918), p. 6.



never excuses. As I grew to mature manhood, I came to believe that in any civilization where effective living is not rewarded or where failure lives in comfort and security, there is a form of government that cannot long endure. The men and women who populated the globe in the past were the lineal descendants of the men and women who lived effectively. Earth is cluttered up with the ruins of those who failed, but none of their descendants people the globe. In the long run the earth is peopled by the descendants of those who give right responses and not by the children of those who make failures of their lives. The permanency of our civilization depends on whether or not the people who build it leave descendants to maintain it. If our civilization rewards social inefficiency and incompetence, it is doomed.

If I understand the laws of life aright, democracy, of all forms of organized government, is the most likely to reward where reward is deserved, and, therefore it is the most likely in the end to endure. The enemies of democracy everywhere are those who want rewards assured them through some organization of society, although they have in no way deserved them. The Communist wants society to give him a reward even though he never does anything to deserve it. He wants rewards distributed to the socially competent and incompetent alike. Nazis and Fascists would distribute the rewards of life through force or some organized power of society at the whim of some indi-

vidual or group of individuals without reference to whether these rewards are deserved or not. In all such forms of government individual initiative is crushed. Individual worth counts for naught. The law of reward and punishment is annulled, and the law of life which has in the past built a strain of virile men and women ceases to operate. A nation of softened and incompetent people can be the only result. Democracy distributes reward and metes out punishment generally where reward and punishment are deserved, and if allowed to operate will build a nation of virile, successful, self-sustaining citizens.

#### THE LAWS OF HEREDITY AND VARIATION

One of the most important laws of life is that which concerns itself with the processes by which new living things come into being. Man early learned that if tares appeared in his wheat, the seeds of tares must have been sowed. He also slowly learned the limits of the effect of all cultural and environmental factors on the process of coming into being, but it was only through the study of heredity and variation that he gained a clear conception of the laws that operate in the production of a new life. It is only recently that he has built up a body of knowledge that he can use in the creation of plants, animals, and human beings that can meet the demands of modern social, industrial, and economic life.

Intelligent people wish to know and need to know the nature of the

laws by which heredity operates, not only because the laws themselves are clear and general and well established as important parts of modern science, but because character and behavior are themselves in part the result of the operation of these laws.<sup>2</sup> An understanding of the natural laws will not only explain the relative importance of heredity and environment, how the characters of plants and animals and the human race are inherited, and why like produces like, but it will also explain how short and tall, blue eyes and brown, obese and slender, or even brilliant and imbecilic people are born in the same family. It will also give the reason for the continuity of the characters of plants and animals and will explain how new characters come into existence and persist in organisms.

A more important reason why man should know the laws of nature is the application he can make of this knowledge of the laws of heredity and variation in improving the plants and animals that give him pleasure, comfort, and well-being and in producing a human race willing and able to bear the burdens of civilization. The habitations of man are decorated by an infinite variety of plants, our gardens, orchards, and fields are filled with fruits, vegetables and grains, and our farms and ranches are peopled by domesticated animals man has created through his knowledge of the laws of heredity. The one hundred and twenty bushels to the

acre corn I saw in Iowa a few days ago, the grapefruit on my breakfast table this morning, the Burbank potatoes at noon, the avacado salad this evening, the sheep, horses, cattle, and hogs I saw paraded in the arena in Kansas City this fall, the bouquet of chrysanthemums on my wife's desk, the Pomeranian of one of my friends and the Great Dane of another—these were all created through the use of the laws of variation and heredity and all are related in some way to the pleasures and well-being of mankind.

Today the operation of the laws of heredity, because of an ill-advised humanitarianism, is producing a race of people who will never be able to live effectively, and the same ill-advised humanitarianism is creating more misery than it can ever relieve. The longer these conditions exist the more difficult it is going to be to throw the operation of these laws into reverse and make them operate to produce a virile and self-sufficient race. We know they will do so if someone or some group has the courage to direct their operations to this end. Whoever shall direct them will confer a kindness and lasting benefit upon his fellowman.

#### THE LAW OF DOMINION

One of the first injunctions of the Bible, a law of life, was for man to have dominion over every living thing on earth. Later man was taught to have dominion over the beast in himself, and still later to have dominion over his own thoughts and emotions. His well-

<sup>2</sup>L. C. Dunn, *Heredity and Variation* (New York: The University Society, Inc., 1934), p. 1.

being is in proportion to the degree he has learned to obey this injunction. Even Alley Oop and Fuzzy found it to their advantage to domesticate a dinosaur and a lizard. The dawn of civilization came when man learned to domesticate animals and cultivate plants and make them minister to his needs. Slowly he gained dominion over the large predatory animals that preyed upon him; little by little he learned to cultivate plants and to domesticate animals. He learned how to erect defenses and protect himself against outside forces. The story of man's efforts to defend himself against insect enemies reads like a romance. Today he cannot let down his defenses against them without suffering irreparable loss. Probably the history of the discoveries of the causes of disease and his erection of defenses against this group of biological agencies is the most interesting in the history of science. While he has not gained complete dominion over insect foes and the biological agencies which cause disease, a further application of the knowledge he already has will give him a dominion he did not hope for a few years ago.

Today one of the chief concerns of man is what he is to do about predatory people and nations. Since the dawn of civilization man has not only had to defend himself against the forces of biological nature around him, but he has always had to protect himself against his fellow man. It has been the hope

of a large portion of the population of the globe that men would learn to live peacefully and comfortably together and that they would be able to dispense with their defenses against each other, but this country learned through sad experience that whenever it let down its defenses against predatory mankind in its citizenship, crime and depredation increased rapidly. While I think there is no one who would not welcome the day when armies and navies might be safely scrapped and peace officers could hang up their guns, I think we will have to admit that it would be inadvisable to do so at this time, for the welfare of man depends on how fully he has dominion over the predatory forces which threaten his well-being. Probably even more important than his dominion over the predatory forces of nature and the predatory group within his own kind is his dominion over the forces within himself that threaten his happiness and well-being. We are just beginning to accumulate a body of knowledge concerning endocrinology and mental therapy which when applied will give man a dominion over a whole host of conditions that have threatened his welfare and well-being, and about which until recently he was absolutely unconscious.

While this does not in any way exhaust the laws of life, if man would learn and obey even this small group, his happiness and well-being would be increased beyond measure.

# Looking Forward in Health and Physical Education

GARFIELD WILSON WEEDE

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The success or failure of the physical education systems of the past have practically always been measured by whether or not they have met great national needs. Thus we have developed the well-known and so-called German, Swedish, and Danish systems. The fundamental need of each of the nations developing these systems was, at the time of its conception in every case, the military preparedness of the masses of its citizens. How well or how poorly they each prepared for those national crises is not our chief concern in America today. The significant points to consider are: Does the system of physical education being used in the respective schools meet American national needs? Is the system being used sound?

In the past, the general tendency in America in the selection of physical education programs has been to copy more or less from all these foreign systems, trying to utilize them even though no such similar national need prevailed. Up to the present time we have had no call for universal military preparedness. That the use of these systems has not met with great success is obvious. The fact that in America there has been no standardized system is due, no doubt, to failure in

the past to have universal need about which all our efforts have centered. The result has been isolated, semi-successful, programs of procedure by various individuals and schools, often at cross purposes in adjoining sections of the country. Within the past generation, there has been a growing tendency to curtail formal, old world systems and to lay greater stress on the "natural" programs, but this plan is not yet nation wide.

Forward looking progressive physical education teachers should analyze the past and present social and economic trends in American life as well as the nation's physical needs, giving thought to these needs in the light of immediate changes that can be foreseen. They should pick out the outstanding factors which point towards national problems and keep them in mind when they make their choice of physical activities. Those phases of work which have been carried on in the past, for no very good reason except possibly physical development, which do not contribute to the solution of these other apparent needs as well, should be gradually eliminated and replaced by other physical activities and methods which do make a contribution. In

this way the physical education programs will become more unified and co-ordinated than they have been in the past and better results both for the profession and the public may be accomplished.

Remindful of the ever-changing world in which we live is the following paragraph, taken from a leading New York newspaper. It gives a description of the fiftieth anniversary of the building of the Statue of Liberty in New York harbor. "Overhead droned airplanes which were only in the dream stage when the statue was dedicated. The voices of the President of the United States and other speakers were heard throughout the country by millions of citizens through the radio, unheard of fifty years ago. By means of short waves, the voice of the President of France speaking in Paris was heard just as plainly. Amplifiers carried the voices of the speakers to distant points of Bedloe Island, upon which those attending the ceremonies were crowded, whereas fifty years ago, the rain which prevailed, made it impossible to hear the speakers at a distance of more than a few feet. Teletype and wire-photo machines which were not even thought of half a century ago transmitted the speeches and the pictures to the newspapers of the United States and foreign countries and the papers were on the streets soon after their delivery. All that was lacking to denote completely the progress that has been made in fifty years was television and even that is here in incomplete shape."

In thinking through such a report as this, one is made to realize forcibly that we are living in a changed and changing social and economic order. Our ways of living, our points of view, our sense of values regarding many things have completely changed in the period of less than a lifetime.

Looking forward we can expect other radical changes in the future which will develop situations that the boys and girls in school today will have to face as adults. A recent article on "Life Situations and Trends" pointed out the following "handwritings on the wall," most of which demands consideration if physical education teachers are anxious to make their programs contribute to changing national needs.

1. Life in a more highly mechanized society even than at present.

2. Shorter working days and weeks entailing more so-called "earned leisure" as contrasted with the great "forced leisure" prevalent today.

3. Less actual activity in work, due to improved machines which will demand suitable leisure activity as a counter-balance for the continued health of our nation.

4. The growing tendency on the part of the public towards passive recreations furnished by commercial radio, movie, and television programs.

5. Higher material standards of living, but not necessarily accompanied by higher standards of life, socially and morally.

6. Longer life expectancy with attendant dangers of our society

becoming a nation of more adult population. (This point is borne out by a survey of the National Resources Committee which predicts that in the next twenty-five years, on the basis of past surveys, America will have twice as many persons over sixty years of age, and only half as many under twenty-five years of age, as today, because of increased life expectancy on the one hand, and the increasing tendency on the part of parents not to rear larger families on the other.)

7. Juvenile delinquency, now a big national problem, statistics show to be on the increase.

8. Sex crimes are on the increase as shown by surveys.

9. Statistics show an improvement in general health, stature, and strength of the public, but a greater increase in the many hazards against life and limb which make a greater demand for safety education.

General education must awake to these problems and national trends. In the past, we have educated people for a "working world." Now we must also educate people for a world with leisure and changed social, political, and economic viewpoints. This is not the problem of physical educators alone, of course; but if physical education can contribute even to two or three of these pressing problems, it will be doing a fine public service. Many leaders in the field believe it can contribute to most of them, and its aid, with other fields of education equally engaged, will combine to lessen the problems.

Following the World War, there was an increased tempo in all we did. Our lives became more mechanized, and the auto, the radio, and the many other scientific adjuncts of our lives made us full of tensions—mental, physical, and emotional. Now we are passing through a period called a depression. As a result a slowing down process, unemployment, and "forced leisure" such as the world has never before known have come into our lives. With the further shortening of the working day, which is advocated and which will no doubt be realized, we shall have more and more "earned leisure" even though an industrial rehabilitation may re-employ those now "forced" to leisure. This leisure phase of our present and future environment, whether "earned" or "forced," is one of especial importance to physical education.

History teaches us that no nation with too much leisure has ever survived. The question is, Will America? The test of any nation is how it takes its leisure. Whether leisure is to be an asset or a liability to our people depends upon how it is going to be used. What people do in their spare time is just as important or more important perhaps than what they do when they are at work. The things which they do when they can do as they please are the things which make or break them. Leisure, then, becomes not only the concern of the individual but also of the home, of the community, the school, the church, and the government.

So in looking forward today as persons interested in physical education, one of our most important tasks is to help educate the child and the adult to use and enjoy his leisure in such a way as to satisfy both him and society. Dr. Jacks, the English philosopher, has well said, "The way we spend our leisure as adults will depend upon how we spent our playtime as children."

The average age of criminals, according to reports, is about eighteen. Studies show that 97 per cent of these delinquents never belonged to a supervised organized group. Juvenile delinquency, we are told, is greatest between the hours of three and ten, P. M., the after school hours. The Russel Sage Foundation Committee reports that there is a 50 per cent decrease in delinquency in the cities when summer play grounds are open.

With these facts in mind, what is physical education's responsibility? We know that the two dominant impulses of youth are towards activity and collective associations. Activity and collective associations mean sports, games, teams, arts, crafts, music, drama, hobbies, clubs, play grounds, gymnasias, athletic fields, intramural programs, and good places to play. On the other hand they may lead to destructive, antisocial activities, pool rooms, dark alleys, street corner gangs, basement dives, etc. We know that in every individual there are energies, mental, physical, and emotional, and if the individual is to remain normal, these energies must have normal outlets. A definite part,

along with other specialized fields of education in the furnishing of these normal outlets, is one of the responsibilities physical educators must assume. Miss Agnes Wayman of Columbia University, in her new book, *Philosophy of Physical Education*, in stressing these energies, points out three possible results which may happen because of the hungers of youth:

1. "We may dam them up, until suddenly they break out in some exaggerated form.

2. "They may vent themselves in constructive, creative or at the worst harmless activity.

3. "Or they may exert themselves in destructive, harmful, anti-social activities."

The implications of Miss Wayman are that what happens depends for the most part upon environment, opportunity, and leadership. Juvenile delinquency is only a symptom, an effect, and if it is to be curtailed, its causes must be eradicated. Educators, layman, and governing bodies must awake to the fact that the more money they spend on wholesome recreational programs, the less they will have to spend on prisons and reformatories. Physical education programs must be built along recreational lines that will have a carry-over into adult life. They must include recreations which the child will use voluntarily during after-school hours. More thought in the future will have to be given to the cultural possibilities in all the physical activities selected, and an effort must be put forth to administer

the programs so that these values will be caught or achieved by the students. For each teacher of physical activities this becomes a challenge not to be satisfied with the development of physical skills alone, but to place greater stress on the social, emotional, and moral development as well.

The multitude of duties most directors of physical education have in the schools in which they teach must be obvious. Besides a full schedule of scholastic subjects, they are too often primarily held responsible for the development of a strong interscholastic athletic team. In addition to this responsibility they conduct the required physical education courses in the school. Under such overloadings, it is hard to ask physical education teachers to meet additional problems. Will they or can they rise to the challenge of this vision of the future? They will have to revamp much of their thinking, they will have to revise much of their curriculum

content, organization of activities, and methods.

They will have to give boys and girls better tools to use in the way of so-called minor sports, games, outing activities, hobbies, etc. No longer can physical education be bounded by "day's orders" or by hard and fast systems of German, Swedish, and Danish origin, by championship athletic teams, records, and gate receipts.

Last year's program is not satisfactory today, and today's program may not be satisfactory tomorrow. Programs must always meet the changing needs of the social and economic life. For years as a profession, physical education has been on the defensive, trying to justify its programs, trying to get a foothold on the educational ladder. This is its big chance. Are we as members of that profession prepared? Can we catch the vision, will we assume the responsibilities that open up for us in this challenge?



# Modern Health Trends

J. RALPH WELLS

---

Since the dawn of man's advent upon earth, he has been continuously confronted with challenges to his existence. Some of these have come from without, while others have arisen from within; but whether these problems are innate or environmental, man's continuance, as well as the quality and character of his continuance, has always depended upon his ability to surmount these difficulties. In his struggles to exist he has had to adjust himself not only to problems more or less familiar to him but also to those which were new, thus requiring him to be adapting himself continually to new conditions of living.

In the early eras of time these struggles were for the most part directed toward solving those problems having to do with saving himself from the destructive agencies of his immediate surroundings—human enemies, wild beasts, famine, pestilence, and the rigors of an exacting mother nature. He had but little time to devote to thoughts and efforts to improve the quality or length of his existence. As time passed, he became more and more effective in meeting the immediate problems of mere existence, and with this increased effectiveness he was able to devote more attention to self improvement and to increas-

ing his span of life. This in turn made possible an increasingly greater knowledge of himself as well as of his enemies and, with this, increased ability to solve the problems challenging his efforts at self-preservation and improvement. He necessarily studied his enemies, including diseases, the last to give up their secrets to him, and devised ways of controlling or annihilating them, even though his ideas of them were often meagre or erroneous. By this long, slowly evolving procedure a wealth of knowledge and skill relative to human welfare was gradually accumulated.

In as much as self-preservation is the first law of life, those problems concerned with health and its maintenance have always been paramount among the vital problems having to do with existence, and especially the quality of existence. That man has enjoyed a measure of success in solving many of his health problems is attested by his being here today and by the volumes of available data recording his victories in his efforts at self-preservation and self-improvement. That he has failed in some of these efforts is to be seen in another and possibly greater volume of records of various types dealing with human inefficiency, misery, and premature decay. It is with respect to a few of these suc-

cesses and failures that we shall now be concerned, particularly those of importance in our own country at this time.

Among the major health problems with which we have long been confronted are those of the communicable diseases. It is interesting to note that in spite of their long existence among men, little real progress in our knowledge of their cause, source, and control was made until comparatively recent times. Most of what we now know about them has come within the last seventy-five years, and, in view of this fact, the present status of our knowledge and skill in disease conquest is little short of marvelous.

During this short space of three quarters of a century, numerous diseases, which have ravaged mankind for ages, have been eradicated completely from many areas of the globe. Others have been reduced from a major causative factor of illness and death to one of insignificance. Thus an epidemic of cholera, a disease which once decimated whole populations, has not been reported in the United States since shortly after the Civil War. This disease is now practically unknown in any country where reasonable standards for the control of food and water are practiced and sewage disposal given proper attention. The same may be said for other intestinal diseases such as typhoids, dysenteries, hookworm, and gastro-intestinal catarrhs. In fact, typhoid is now so rare as to be a medical curiosity in many regions.

Smallpox, that age-old scourge

of mankind, is practically unknown wherever vaccination is routinely used. However, there appears to be developing in the United States a serious indifference toward vaccination with the result that serious local epidemics of this disease are occurring in various parts of our country from time to time. It is an interesting, even if a somewhat misleading fact, that of twenty-six countries reporting smallpox morbidity to the League of Nations from 1921-1930, the United States showed the highest reported attack rate with the exception of British India.

Diphtheria, which once took a toll of one of every two persons who contracted it, no longer causes any great anxiety among the parents of children,—thanks to toxoid immunization and antitoxin treatment. This disease could be entirely wiped out by routine immunization of young children.

Malaria and yellow fever have disappeared almost completely wherever mosquitos have been controlled. The story of this conquest, especially that of yellow fever, is one of the most interesting and absorbing in all the annals of disease control. This, too, has come within the last seventy-five years.

Leprosy is another human scourge of past ages whose name is being heard less and less frequently. Few of us now living have ever seen a case.

Another instance in which we have evidence of success in meeting serious problems of disease is that of tuberculosis, commonly known as

the great White Plague. This disease has threatened the destruction of communal living for ages and has exacted a toll in human misery and death which can not now be stated in comprehensible terms. Until very recent times, man seemed helpless in his efforts to check its ravages. He did not even know its cause until 1882, and the launching of an organized campaign for its eradication in the United States did not occur until 1904 when The National Association for the Study and Prevention of Tuberculosis was organized. That tuberculosis is now coming under control, and rapidly so, is seen by the fact that in this country the annual death rate dropped steadily from 200 per 100,000 population in 1900 to 56.4 in 1934, and for the first time in history it is now less than 50, being 48.8 for the first six months of 1938. Thus the trend with this disease is unmistakably downward and so definitely so that some authorities are now openly predicting its elimination. The modern campaign against this malady is one of the best organized and most energetically pursued of all the campaigns for disease conquest. If it is continued, and we have no reason to doubt that it will be, there is every reason to expect that the present toll of more than 60,000 lives annually will be reduced to a negligible sum. To achieve this goal will, of course, require an ever increasing cooperation of our citizenry with those actively engaged in the execution of the campaign.

The conquest of tuberculosis, in

contrast to that of the diseases already mentioned, has not resulted from the usual methods of focusing attention upon the parasite producing the disease so much as it has from directing attention to the host. This change of procedure seems to be a characteristic of the trend of the present time. The chief weapons used in the campaign against tuberculosis are:

- 1) Improved living conditions as well as improved knowledge of *how* to live

- 2) Early diagnosis

- 3) Adequate hospitalization

- 4) Improved medical care

- 5) A rehabilitation of those in whom the disease has been arrested.

The conquest is succeeding in spite of the fact that there is no cure or preventive in the nature of a serum, vaccine, or therapeutic drug.

Other types of health problems in which the general trend of affairs is very favorable are to be seen in data now available from many sources, but to enter into an elaborate treatise of the various aspects of each of them would be to go beyond the limits of this discussion. Thus the infant death rate in the United States has been reduced from approximately 150 per 1,000 live births in 1900 to 52 for the first half of the year 1938. The maternal death rate in the United States, which has long been higher than that of most of the civilized nations of the world, is on the decline, decreasing from 6.7 per 1,000 live births in 1921 to 4.4—the lowest figure in our history—for the six months ending June 30, 1938.

It is significant to note that serious attention to this cause of death did not come to pass until about two decades ago. The general or crude death rate of our country has dropped from about 20 per 1,000 population in 1880 to 10.8 for the first half of 1938. Finally, life expectancy has increased from 39 years in 1850 to 61 years in 1933, a gain of 22 years within a period of 88 years.

From the facts thus far alluded to, it seems evident that a great degree of success has been achieved in solving many of the problems of health. This evidence also indicates that whenever we direct our energies systematically and persistently to the solution of a pressing problem of this character, the result is usually, although, as we shall see later, not always, the eradication or at least a minimizing of the problem.

That our attempts to control certain diseases have thus far been unsuccessful in a large measure is well illustrated in the case of cancer, a disease apparently as old as our records. In spite of all the millions of dollars and the untold hours of study and research by our ablest scientists which have been devoted to attempts to fathom the inner secrets of this disease, there is yet no general agreement as to its specific cause, its prevention, or its cure. Neither is there any generally accepted view as to why these malignancies are still taking a three to five per cent increase in their annual toll of human lives. Cancer is the only important cause of death for

which the current rate is greater than that which existed in 1937.

While it is true that cancer is preeminently a disease of the later years of life, and more and more people are living to reach these years, this is not a sufficient explanation for the continued increase in the mortality from this cause. Neither is it generally accepted that these factors combined with better diagnosis and reporting of the disease account for all the increase. Moreover, it must be remembered that our medical men are becoming increasingly better able as well as more alert to the diagnosis and treatment of this condition in its early form, which in turn provides more and more cures thereby minimizing the reported cases of death. Thus it appears that the trend of cancer incidence is definitely upward. When this trend will be changed, only time will tell. From the standpoint of the welfare of the individual adult citizen, it would be well to remind him that he should consult a good physician without delay at any time he notices any unusual disturbance, growth, discharge, or lesion which refuses to heal in a reasonable time.

Another very noticeable trend in the disease problems of the present is the progressive increase in the death rate from heart disease. Instead of a death rate of approximately 125 per 100,000 population, as it was in 1900, the rate was 274.9 for the calendar year 1937. However, the rate for the year 1938 was slightly less than that for 1937, the first indication that the limit is

being approached. Deaths from this cause have consistently headed the list of causes of mortality in the United States since 1920, thus entitling this condition to its oft expressed title, "Captain of the Man of Death." In accounting for the large increase in deaths from diseases of the heart, one has to consider numerous factors, not all of which make this condition as bad as the figures just quoted seem to indicate. In fact there are authorities today who maintain that much of this increase is proper and to be expected. It is pointed out that we have an aging population, thus giving an increasingly larger number of persons who live long enough for the heart to wear out. We are reminded also, that Americans are noted for going to extremes and that heart deaths are very intimately associated with the stress and strain of living. Thus we are told that, until the extremes of living and the pace of the modern age is slowed down considerably, if it can be, we can not expect any significant decrease in the mortality from heart disease. Another factor in the continued increase of heart disease is, of course, better diagnosis and reporting of these cases. Also, as already shown, we know that the death rate from many diseases has been very materially decreased, thus shifting the cause of death, which must come sooner or later from some cause, to other causes.

Another health problem in which

there seems to have been little or no improvement to date is that of the common cold. The incidence of this condition, or series of conditions, is greater each year than that of any other disease condition, although it is not credited with being a major factor in human mortality. While the case rate of this disease fluctuates considerably from year to year, there seems to be no definite trend either up or down. Since it is not ordinarily considered as a serious condition whose specific cause, if there be one, is known, large scale efforts to solve it have not been forthcoming. It is quite generally thought to be closely associated with individual conditions and behavior and not always due to any one specific germ. If this be true, its reduction is largely a matter of improving individual knowledge, attitudes, and habits of living to the end that people will so live as not to be susceptible to it.

Thus, it is evident from the above facts that there are many favorable health trends and that much has been accomplished in modern times to make life more vigorous, decay less rapid, and death more remote. Likewise it is clear from certain other conditions alluded to that there are some very definite trends of an unfavorable character and for this reason there is yet much room, as well as need, for continued study and research in the field of health and health improvement.

# The Function of Tests and Measurements in Health and Physical Education

HAZEL CAVE

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The place of tests and measurements in physical education has been increasing in importance to the profession in general since about 1920. However, it is of considerable interest to note the early attempts to develop norms of human proportions and to test the capacity of the body for action.

Anthropometric measurements, those taken on the human body, are among the earliest of which we find record. Many centuries before Christ, the Egyptians attempted to discover one anatomic portion of the body which would serve as a common measure of all the other structures. In much the same fashion we find the ancient Greek and Roman sculptors searching for a unit of measurement whereby the proportions of the perfect human figure might be determined. Of course, this ideal of the human figure varied from country to country and from age to age. Apparently the matter of the body proportions was of interest chiefly to sculptors and artists in other media until the early part of the eighteenth century.

Baron Quetelet, the Belgian statistician, may be called the father of modern anthropometry, in which the interest is primarily in normal body development. Various inves-

tigators made extensive studies of body measurements for different age levels. Among those whose work is prominent in this field in the United States are Dr. D. A. Sargent of Harvard, Dr. W. W. Hastings of Springfield, and Jay W. Seaver. According to Bovard and Cozens,<sup>1</sup> the greater part of the anthropometric work, in so far as it concerns physical education, placed emphasis on symmetry and size.

In the latter part of the eighteenth century there was a shift of emphasis from measurements of the size of the body to measurements of the strength of the body, for it became evident that a large body often did not indicate a strong body. For a time the pendulum swung far in favor of strength tests with great significance being attached to the results. In common with measures of size, measures of strength eventually declined in importance. However, in the past few years Frederick Rand Rogers, working at Teachers College, Columbia University, by careful and scientific study has shown that strength tests are valid as an index of general athletic ability.

Soon after the introduction of strength tests, Mosso, the Italian

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<sup>1</sup>Bovard, John F., and Cozens, Frederick: *Tests and Measurements In Physical Education*, p. 32, W. B. Saunders Co., Philadelphia, 1938.

physiologist, invented the ergograph. From his use of this instrument he pointed out that the ability of the muscles to perform was dependent on an efficient circulatory system. Bovard and Cozens<sup>2</sup> state that "He was a pioneer in establishing the relationship between 'physical condition' and 'muscular activity.'" A series of studies by numerous investigators sought to establish the relationship between cardiac rate and arterial pressure and general physical condition. Research along this line has continued to the present day.

Another factor leading to the decline of the strength tests was the growing interest in the ability of the individual to handle the body effectively in events like running, jumping, climbing, and similar activities. This type of test, worked out on a scientific basis, is one of those now being used to a great extent. Such tests are commonly called "physical efficiency" tests. Closely related to these are the motor ability tests which are devised as a measure of coordination involving such factors as balance and agility. Another outgrowth from this type of testing is the skill tests in different sports.

The increase in numbers of these tests, and of the items within the tests made necessary a simplification of the procedures in an attempt to get a composite figure which would serve as an index to an individual's capacities. At pres-

ent the average physical educator must choose with care from the volume of testing material at hand. As is always true in a comparatively new field of endeavor, there is much that lacks validity.

For many years those teachers attempting to do careful and conscientious work have been using some system of rating and measuring students, but most of it was more or less unscientific in character. Unfortunately too many teachers were content to take it for granted that the desired objectives in the physical education program had been reached by the ordinary routine of teaching. This passive attitude has acted as a brake to progress in physical education. Only when there is a general realization that tests are neither a passing fad nor a necessary evil, but a constructive device for improving the technique of teaching, will they be used to the best advantage.

In choosing the tests to be used, it is essential to keep in mind what purpose is to be accomplished by the tests. Bovard and Cozens<sup>3</sup> outline a number of the uses of measurements. One of these is for measuring pupil progress, either for assignment of grades, or for promotion from one level of achievement to the next. The day is passing when a student's grade in physical education depends on the subjective opinion of the instructor as to the character of the work done, or upon the number of times the stu-

<sup>2</sup>Bovard, John F., and Cozens, Frederick: *Op. cit.*, p. 34.

<sup>3</sup>Bovard, John F., and Cozens, Frederick: *Op. cit.*, p. 18.

dent has been present in class. Carefully administered tests should be one of the prime factors in the determination of the student's standing. As envisioned by those in the testing field, minimum standards need to be established for different levels of age or grade and advancement be based on the achievement of these standards.

Another use of tests is for classification and guidance of students. All too often in the past, a student's schedule of academic classes has been arranged and the physical education period then fitted in wherever convenient. This inevitably results in a heterogeneous grouping of students with widely varying ages and abilities. It is equally destructive of interest to ask the skilled player to play with the "dub," or to ask the "dub" to compete against the expert. Were it possible to classify students into groups according to common levels of physical ability, a much more challenging program of activities could be planned.

A teacher herself may benefit, or be judged, by carefully interpreted testing results. She may find some particular element which she has failed to present effectively to the students, or the results of the tests may be used by her supervisor, or some other agency, as a measure of her teaching efficiency. However, this should not be the sole basis of judgment because it may be greatly affected by the limitations of the teaching plant, by the previous training of the students, or by other similar influences.

The use of tests for diagnostic purposes still looks like practically an impossible task to the average physical education teacher who must through necessity handle large groups of students. Deficiencies in physical ability cannot be determined by one or two simple measures, and there is no point in determining deficiencies unless a program is set up to remedy them. Probably this field of testing requires more careful choice of test material than any other.

From the standpoint of the student, tests do much to arouse his interest in his standing with respect to that of other members of his group and with regard to the standards set up for those of his level of ability. When students have access to test records and know how to interpret them, it places in the teacher's hands a powerful instrument for motivating improvement in performance.

Today's physical education program is much in need of carefully controlled research along all lines of testing, which will place in the hands of the average teacher test procedures which are practical for use in the ordinary class. A brief consideration of some of the types of tests being used in physical education will serve to give a better understanding of the present status of tests and measurements in this field.

Although the absolute standards of body proportion set up by the early anthropometrists were not reliable, recent investigators have found that certain anthropometric



measures are of value. Much has been done along the line of judging posture defects according to deviations of the body contours from certain accepted standards. According to one method, the student is photographed against a scaled background on which are both vertical and horizontal markings at set intervals, which enables the instructor readily to determine deviations from normal. Another method is a posture picture showing the body in silhouette against a black background. This is compared with a rating scale composed of silhouettes showing different posture variations.

Anthropometric procedures have been worked out which assist in determining the nutritional status of the individual. Some work has also been done which points toward a relationship between types of build and athletic ability.

Strength tests, another of the early developments in physical education, have likewise been subjected to a reinterpretation in recent years. One important deduction from the earlier studies by E. G. Martin was to the effect that strength of a few muscles is a good indication of the strength of the body as a whole. Studies of the importance of muscle strength have been made by Frederick Rand Rogers in working out his "strength index," by H. L. MacCurdy in connection with the "physical capacity test," and by C. H. McCloy at the University of Iowa. These studies have been carried on with boys of different age levels, and the results obtained

seemingly correlate rather closely with general athletic ability.

The intimate relationship between effective muscular action and the circulatory and nervous systems has led to much experimentation with the reaction of the cardiovascular mechanism to exercise. E. C. Schneider's test may be described as typical of this group. While the subject is in a reclining position, two or three determinations of pulse rate are made, and the average of two or three readings of systolic blood pressure is taken. The subject then assumes an erect position and after an elapse of two or three minutes the pulse rate and systolic pressure are recorded. Next a definite exercise is performed. The subject stands with the right foot on a bench eighteen inches high. On signal "go" he lifts himself without touching any support to an erect position on the bench with the left foot beside the right foot. Keeping the right foot on the bench, he returns to the original position. This is repeated five times at the rate of once each three seconds. The pulse rate is then taken for a fifteen second period immediately following the exercise and at intervals of sixty, ninety, and one hundred and twenty seconds thereafter. Each of the readings taken is rated according to a table and the sum of these ratings constitutes the score. No one of the tests worked out to date is considered infallible, but each has added much to the sum of knowledge concerning cardio-vascular reaction.

Another group of tests having to do with motor ability and motor capacity and with athletic ability and achievement constitute a subject in themselves. Tests of motor ability have been carried on with different objectives in view. Sometimes they have been given in an attempt to discover native motor ability, sometimes to determine innate (inherited and acquired) motor ability, and at other times in the effort to get an index to general motor capacity. What is meant in general by motor ability will be more clear if we consider the three points given by Brace<sup>4</sup> for consideration in making a subjective judgment of motor ability. They are: "(1) ease and proficiency in learning new coordinations; (2) proficiency in a wide variety of motor activities; and (3) performing activities with easy and graceful form."

The material used in these tests has been in the nature of a series of stunts requiring a considerable variety of coordination. The following are two of the twenty used in the Brace test: from standing position jump into the air and clap both feet together once and land with feet any distance apart; bend and touch left knee to the floor while grasping left foot behind right knee. McCloy found that a combination of three or four track and field events, together with a strength test, gave as high a predic-

tion of general motor ability as was given by any other combination of events.

A number of city systems of physical education, including those of Philadelphia, Detroit, and Los Angeles, have worked out achievement standards to stimulate interest in physical skills and to further participation in athletic activities. The following events from the Los Angeles Achievement Expendancy Tables serve to indicate the type of events used: soccer kick for distance, volley ball serve, basketball throw for distance, batting for accuracy, running broad jump, standing hop step and jump, and the running high jump. These achievement tests have necessitated some classification system whereby students may be fairly matched for competition. In some cases this has been done on the basis of grade in school, and in others on the basis of height, weight, or age. Since no one of these factors is sufficient to obtain a fair grouping, a classification in which the four factors are combined seems to be most satisfactory.

In addition to the tests of general ability are those for specific skills in different sports. These may be for the purpose of grouping a class according to different levels of skill, for determining weakness in a particular element of sport technique in order to motivate practice, or for measuring total accomplishment in a sports season. In stimulating classes to greater achievement, specific records of attainment have gone far beyond subjective judgment of the

<sup>4</sup>Brace, David K.: *Measuring Motor Ability*, p. 93, A. S. Barnes and Company, New York, 1927.

teacher and a general sense of improvement on the part of the student.

The increased interest in some objective measure of an individual's grasp of a sport has led to experimentation with written knowledge tests which include questions covering rules, techniques, and team tactics. Comparatively few of these have been properly validated, but much work is being done to improve them.

In the field of dancing and rhythm, the attempts to establish objective measures have barely brushed the surface. According to Glassow and Broer, "the measures which are suggested for class use are

(1) subjective rating of execution which requires both muscular control and rhythmic perception, (2) some form of repetition of pattern or tempo, and (3) written tests of information or recognition."<sup>5</sup>

If tests and measurements are to function in physical education, the average physical educator must be convinced of their value and be educated in the choice and use of them. However, the abundance of careful work that is being done, and the worthwhile material that is available, assure us that future progress will not be slow.

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<sup>5</sup>Glassow, Ruth B., and Broer, Marion R.: *Measuring Achievement in Physical Education*, p. 211, W. B. Saunders Company, Philadelphia, 1938.

# Science and Folklore in Education

HARRY H. HALL

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Science in its widest significance is the correlation of all knowledge or as Huxley put it, "Science is trained and organized common sense." To know a truth in its relation to other truths is to know it scientifically. For example, the recognition that the alternation of day and night depends on the apparent daily motion of the sun is a distinct scientific achievement, being one of those elementary scientific truths which have been the possession of thinking minds from time immemorial.

The end of science is the rational interpretation of the facts of existence as disclosed to us by our faculties and senses.

The scientific method is essentially inductive, that is, from particulars to generalities, and is to be contrasted with the method of philosophy which is deductive, that is, from general truths to particular truths. This distinction was first clearly indicated by Francis Bacon and elaborated by Descartes and Comte. No better instance of pure, extensive, and scientific research can be cited than that pursued by Darwin in his biological investigation.

Experiment is the great aid of scientific inquiry. In it we arbitrarily interfere with the circum-

stances of a phenomenon, or produce an entirely new phenomenon by appropriate combinations of causes. Contrasted with experiment is observation, in which we simply watch and record the events as they occur in nature.

The question "why" has probably been asked more times in the history of the world than any other. It is the favorite question of children, and as even the wisest of men are but children in knowledge, it has been the constant query of mankind since it was first uttered. The answers which have been found, the organized knowledge we have acquired by observation and reasoning, make up what we call the sciences.

The truly scientific student never jumps to a conclusion. No matter how logical or unlogical an explanation appears, or how plausible a statement may be, he must treat it as a hypothesis, or supposition, until it is proved beyond doubt. He works from his knowledge of the universal law of cause and effect, which tells him that any set of circumstances always produces the same results, and that in nature there are no exceptions to a rule. A good example of the scientific attitude is the story of the discovery of the planet Neptune.

The planet Uranus showed eccentricities which led astronomers to believe that it was being acted upon by some invisible body. Two astronomers, Leverrier and Adams, were able by deduction and mathematical calculation to determine what body could produce the variations noticed and where that body was to be found. The result was the discovery of Neptune, just where these two astronomers had, independently of each other, stated that it would be located.

In ancient times, and even during the middle ages, there was little attempt to differentiate among the sciences, for scientific knowledge was limited. A distinction was drawn between the theoretical and the practical sciences, but that was in effect merely a distinction between what would today be called philosophy and science proper. Until modern times the general term natural history was in common use to describe the study of all life, whether plant or animal. As scientific knowledge increased, however, a more definite classification became necessary.

The term pseudo-science is useful to describe the several pursuits which in one view constitute the antecedents of modern science and in another show the survival of outgrown habits of thought and the persistence of the cruder products of inquiry. These beliefs and practices form a significant part of the history of thought and of the struggle of men to guide conduct by knowledge. Pseudo-science arose as ambitious attempts to explain the

world of things and events and the unseen world of spirits and forces patterned upon the fears and desires of men. They proceed from rather vague notions to systematic conceptions; their logic is weak and involves a confusion of wish and fact, of imagination and reality. The demand for proof is slight and the satisfaction of belief urgent. At every stage the mind reaches out for a complete solution, for some system of explanation that makes a whole out of detached happenings and furnishes some sort of clue to the meaning of existence. In the course of such pursuits a considerable body of observations accumulate; but these are held together by the system that is imposed upon them. At early stages such lore is religion and philosophy and science in one; out of the notions thus favored, and thus developed by systematic interpretation, crudely scientific, the early pseudo-sciences arose. The later ones have a different history. The best known of these are alchemy, astrology, palmistry, phrenology, witchcraft, and many others.

A common motive of these pursuits is the control of personal fortune by guessing the secret of its source; more directly to read the signs of qualities and fate in the appearance of nature and of the human form. Primitive thinking looks upon the universe of things and events, the movements of nature, the sky, the land, the sea, and all that they contain, as a setting for human fate, and looks upon the forces in operation as acting after

the manner of human motives. The insight into nature is so uncertain and perplexed that only some fortunate penetration of the mystery can avail. Weak analogies are accepted, and the body of tradition and folklore based upon them is carried forward in a cult of mystic practices and beliefs.

Folklore embraces all that relates to ancient observances and customs, to the notions, beliefs, traditions, superstitions, and prejudices of the common people. Folklore may be separated into four divisions; first, traditional narratives, folk tales, hero tales, ballads and songs, and place legends; second, traditional customs, local customs, festival customs, ceremonial customs, and games; third, superstitions and beliefs, witchcraft, astrology, and superstitious practices and fancies; fourth, folk speech, popular sayings, popular nomenclature, proverbs, jingle rhymes, and riddles.

Many of the divisions of folklore make a fascinating study and the students of folklore make their studies serve a good purpose. If one can find in some peasant family a quaint saying, a jingle, or a nickname that has been handed down by word of mouth generation after generation, he feels that he has unearthed a treasure. Many of these treasures have given infinite pleasure to people who have no thought or knowledge of folklore for the old ballads. Cinderella and Red Ridinghood were all possessions of the people long years before they were collected and put into book form.

If there is found to be a close

similarity in the myths or traditions of two widely separated peoples, the student may conclude that either there was communication between them at some time in the past, or similar conditions among them have called forth similar explanations or sayings.

Space will not permit me to discuss all the phases of folklore; therefore I shall limit my discussion to the part of folklore that deals with superstitions, popular sayings, and beliefs, as they affect the daily lives of many individuals.

Man has roamed over the surface of the earth for many, many years; shall we say for at least a half million years? During this time his progress has been incredibly slow. Most of his superstitions and beliefs are the superstitions and beliefs of the cave man. Many of his errors have a direct lineage to folklore and nursery rhyme. After all, is it not remarkable how little we change? Thousands of people die each year, and yet man-made traditions and beliefs live. One of the greatest steps in mental conservation would be taken by eliminating our load of errors and mysticism.

It is indeed remarkable how little average persons think and how little most of them see. There is no doubt that thousands upon thousands of individuals will roam the same road until our school authorities open the avenue of opportunity to think and to discover.

If there were any way of knowing, many people would be glad to learn whether they should be classified as traditionalists or progressives.

Has your training been one of folklore or realities? One based on tradition or on scientific education?

It would be surprising to most of us if we could know the number of people whose daily lives are governed by traditions and folklore education. Housewives, college students, mothers, fathers, planters, animal breeders, weather forecasters, fishermen, in fact, in nearly all walks of life we find individuals whose education has been traditional.

Do you belong to the group whose education causes a person to believe the following?

Breaking a mirror will bring misfortune.

People who carry good luck charms will not get into trouble or will have good luck. The best charm to carry is the left hind foot of a rabbit caught in a cemetery at midnight.

A potato or buckeye carried in your pocket will ward off rheumatism.

Horse hairs placed in water will turn to hair snakes.

A person who does not look you in the eye while talking to you should never be trusted to be honest.

The future can be discovered for you by having some one read the lines and markings in the palm of your hand.

Touching a toad will cause you to have warts on your hands.

If the new moon is turned to one side, it means a rainy month.

When a snake is killed, its tail does not die until after sundown.

A person who sleeps in the moonlight is likely to lose his wits.

Worms or frogs sometimes fall from the sky when it rains.

It brings good luck to hang a horseshoe over the door.

Friday, the thirteenth, is a very unlucky day.

You will have bad luck if a black cat should cross your path.

The croaking of frogs brings rain.

There is no scientific foundation for any of the beliefs just named.

Many of our old sayings such as busy as a bee, wise as an owl, blind as a bat, crazy as a loon, deaf as an adder, proud as a peacock, quiet as a mouse, black as a crow, eyes like a hawk, and mad as a hornet are anything but true.

A scientist does not need to be reminded that not all bees are busy; owls are not wise; bats are not blind; loons are not crazy; adders are not deaf; peacocks are not proud; mice are not quiet; crows are not black; no one has eyes like a hawk except another hawk; and hornets are not mad. The results show, however, that people are more apt to remember an old saying which is an untruth than even one economic fact about an animal. Is this due to, or in spite of, our educational systems?

Old sayings are passed down for the most part by "word of mouth." They receive a great deal of encouragement in first grade readers and early grade literature. These sayings pertain to our commonest animals. Then there is the opportunity of gaining information by observation. Hearsay, reading, and observation are the three vehicles of informa-

tion, and if judged by present day results, the effectiveness diminishes in the order named, hearsay being far more potent in our present working conception than observation. One is passive absorption, the other, active production. One is parasitism, the other, kinetic energy. One is nursery rhyme mysticism, the other is work bench service. One is predigested food, the other, food for digestion.

Let us consider a few of the more common beliefs which have no basis in fact:

Any plant bearing a resemblance to a portion of the body is a specific cure for the diseases which it is assimilated to, as follows: Maiden hair and the moss of quinces resemble the fibres of the head. Hence a decoction thereof is good for baldness. Plants resembling the figure of the heart are comforting thereto. Therefore the Cintron-apple, Fuller's thistle, spikenard, balm, mint, parsley, and white beet, which bear in leaves and roots similarity to a heart, are congenial to that organ. Herbs that simulate the shape of the lungs as sage, lungwort, houndstongue, and camphrey are good for pulmonary complaints. Vegetable productions similar in shape to the ears, as the leaves of wild spikenard, rightly prepared as a conserve and eaten improve the hearing and memory. Oils extracted from the shells of sea snails, which have the turnings and curvature of the ears, also tend wonderfully to the cure of deafness.

When plants resemble the nose in their configuration, as the leaves

of the wild watermint, they are beneficial in restoring the sense of smell. Shrubs and herbs like unto the bladder and gall are excellent for these parts, as nightshade, and *nux viscaria*. These relieve the gravel and stone. Plants that are liver shaped as the herb trinity, liverwort, and figs are effective in bilious diseases. Herbs and seeds in shape like teeth, toothwort, and pine kernel preserve the dental organization. Plants of knobbed form, like the knuckles or joints as in calamus, are good for spinal complaints, renal disease, gout, knee swellings, and what have you.

Many legends have centered about the woodchuck, alias ground-hog. The Indians told many tales about him. The Sioux Indians called him "Hobcusha." We have a legend which still prevails among us, and we set aside Feb. 2 of each year as ground-hog day. In some parts of the United States Feb. 9 and Feb. 11 are designated as ground-hog day. It is popularly supposed that if the ground-hog makes his first appearance on this day and sees his own shadow, he will return into his den and remain six more weeks before coming out again. This is taken to mean that more cold weather will follow. If he does not see his shadow on this day, he remains outside and fair weather is predicted.

Of course we know that neither the appearance of the ground-hog on this day nor the seeing of his own shadow has anything whatever to do with the weather that is to follow. Nevertheless, the custom of



observing "Ground-Hog Day" continues and in some sections of the United States is an established belief.

Scientific and folklore education have been at odds with each other for many years in the mind of the average individual regarding beliefs concerning the moon. There is no scientific foundation for the following: When the moon is new and increasing (this is what is known as the light of the moon) you should cultivate new friendships, good influences, and strive for improvement in all affairs of business propositions, employment, promotion, and favors. At this time a person's thoughts, feelings, and emotions are supposed to be more easily aroused. All surgical operations should be performed when possible during the increase of the moon. The growing of all crops that mature above the ground, such as lettuce and cabbage, will be greatly favored and be more abundant if the planting is done in the light of the moon, while those crops which grow and mature in the ground, such as potatoes, beets, and carrots, will be better and more plentiful if the planting is done after the moon becomes full and while it is passing through the productive signs (this is known as the dark of the moon). The question that has always interested me is, at what stage of the moon should a stock beet or mangel wurtzel be planted, because half of the root of this plant grows above the ground, the other half below the ground.

The lessons of the great school-

master, experience and scientific education, have hardly seemed to accord with these traditional and folklore beliefs. They have taught, with considerable emphasis, that it does not answer to neglect Nature; and that, on the whole, the more attention paid to her dictates, the better men fare.

Historically, indeed, there would seem to be an inverse relation between folklore education and natural knowledge. As the latter has widened, gained in precision and trustworthiness, so has the former shrunk, grown vague and questionable; as the one has more and more filled the sphere of action, so has the other retreated into the region of meditation or vanished behind the screen of mere verbal recognition.

The records of the human race inform us that so far as men have paid attention to nature and scientific study, they have been rewarded for their pains. They have developed the arts which have furnished the conditions of civilized existence, and the sciences which have been a progressive revelation of realities and have afforded the best discipline of the mind in the method of discovering truth. They have accumulated a vast body of universally accepted knowledge; and the conceptions of man and of society, of morals and of law, based upon that knowledge, are everyday, either openly or tacitly, acknowledged to be the foundations of right action and education.

# Teaching Basketball Fundamentals

JOHN F. LANCE

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The word "fundamentals," as used to denote the various structural elements of the game of basketball, is used vaguely. In all probability no two coaches would agree regarding what is fundamental and what is not. I prefer to classify the game elements into primary and secondary groups. The primary fundamentals are those without which there could be no game of basketball as now played. The secondary fundamentals are those that add to and improve the game; yet the game can be played without their use.

The primary fundamentals are these: 1. Passing the ball. 2. Catching the ball. 3. Goal throwing. 4. Guarding (individual defense).

The secondary fundamentals are: 1. Following shots. 2. Footwork. 3. Dribbling. 4. Trailing. 5. Jumping. 6. Tipping the ball. 7. Screening. 8. Stance. 9. Balance. 10. Judgment of time and distance.

## PASSING THE BALL

Passes may be divided into general classes, underhand and overhand. The elbow level is the dividing line. The fingers point upward in the overhand passes and downward in the underhand passes. The overhand passes are: 1. Push or chest pass. 2. Thrown pass. 3. Overshoulder pass. 4. Hook pass. 5. Shove pass.

6. Bounce pass. The underhand passes: 1. Stomach pass. 2. Hip pass. 3. Handed pass. 4. Backhand pass. 5. Bounce pass. 6. Scoop pass.

## CATCHING THE BALL

Every pass should be directed to a point determined by the play situation. The points to stress in teaching catching the ball are:

1. "See the ball into the hands." Keep the eyes on the ball until it is actually caught.

2. "Ten points on the ball." The ball should be caught in the finger tips of both hands with fingers well spread.

3. "Give to the ball." The receiver should give to the ball as it is caught, in the joints of the wrist, fingers, and elbows. This will absorb the shock of the pass and prevent fumbling.

Passing and catching practices are never separated since every pass should be caught. Regardless of what the setup formation may be or what fundamental is being practiced, accurate passing and receiving the ball should be stressed. Players are prone to get the idea that during practice at goal throwing, foot work, or guarding, they do not have to be accurate with their passes or careful in catching the ball. The result is numerous wild passes and fumbles. Inaccurate and

sloppy playing habits will result from such practice.

A simple demonstration that drives home the results of giving to the ball as it is caught is to hang an ordinary gymnasium mat against a wall. Throw the ball against the wall and it will rebound with great speed. Throw the ball against the mat, and the slight give the mat affords will prevent any rebound and cause the ball to fall to the floor below the mat. The wall represents the stiff unyielding player, a ball fighter. The mat represents the relaxed player who gives to the ball as it is caught.

The techniques of the various passes may be practiced rather formally by arranging the players in circles, in two lines facing each other or in two columns of ones facing each other. In circle formations the ball is passed to the right and to the left and the ball continues around the circle until changed. In the two-line formation the ball is zigzagged from one line to the other until it has been handled by all the players, when it is passed back to the point of beginning. In the two columns of ones formation the ball is shuttled back and forth between the front men of the two columns with the passers moving to the rear of the opposite column. Each of the various passes should be directed to a specific point. The overshoulder pass should be passed to a point over the shoulder of the receiver, the stomach pass to the stomach of the receiver, and the chest pass to the chest of the receiver. Whatever type

of pass is used, the passer should be charged with the responsibility of connecting with the receiver.

#### GOAL THROWING

Many consider "a basket eye," the ability to throw the ball accurately into the goal, inborn. It is true that there is a wide range of differences in this skill in boys. Proper teaching and plenty of supervised practice in the various skills involved may not develop all boys into outstanding shots, but they will bring a general improvement in all.

Bank shots are those thrown against the backstop and into the basket on the rebound. I prefer to limit the use of the bank shot to layup shots taken from either side of the goal. The angle must be properly judged, and a point on the backstop selected at which the shot is to be directed.

Loop shots are those where the ball is thrown directly into the basket. Some players prefer to use the loop shots for all shots. I prefer this type for all shots taken from directly in front of the goal, from directly to the side, and from a medium to long distance from the goal.

Two stances are commonly used for set shots from the field. The short stride stance is probably most used, for players can save time by shooting from this stance. Some players prefer the bunch stance where the feet are together. The delivery of the shot is slightly delayed, as some time is required to bring both feet together. This is a

narrow stance and does not insure good balance.

A player attempting a loop shot should concentrate his vision on the nearest point of the rim and attempt to throw the ball just beyond this point. The ball should be thrown sufficiently high to permit it to enter the basket in nearly a vertical plane. The medium height arch will do this and is the arch most used.

There are many forms of delivery, and every player should develop a good repertoire of shots that may be used against various defensive tactics. The ball should be held lightly by the fingers and should never be palmed. Good body balance should be maintained during the execution of a shot. The eyes should not be raised from the goal until after the ball has left the hands. A few of the most used shots:

1. The underhand loop, used in free throwing and by some players, especially guards, when taking long shots over a retreated defense. This is probably the most natural shot used, but its use is restricted as it is very easily blocked.

2. The chest shot, used more than any other shot when the delivery is made with both hands. The player should be either set for his shot or moving directly toward the basket at the time the shot is executed.

3. The overshoulder shots, both the one and the two-hand kinds are used from close range when the player is guarded too closely on the side toward the basket to use a delivery from the front of the body.

4. The layup shot, or setup,

delivered with the hand next to the backboard when the player is approaching the basket, and by the hand farthest away from the basket when he is going directly or obliquely away from the basket. The ball should be thrown lightly against the backboard or directly into the goal.

5. The hook shot, delivered with a straight arm motion, the arm swinging from the shoulder and the ball being released at a point outside of the outside shoulder. When properly executed, it is practically impossible for this shot to be blocked by a defensive player on the inside.

6. The pivot shot, i.e., any shot taken by a pivot player from a position near the basket. A pivot shot is usually a one-handed over-hand shot taken with the arm farthest from the basket. It may be a jump turn shot delivered with both hands well above the head or a two-hand dip shot delivered with a full underhand swing of both arms.

Goal throwing is the game element that players are most eager to practice. Goal practice formations can be devised that contain several passes, a short dribble, a pivot, starting and stopping. In fact most of the fundamentals of offensive play may be combined into a single practice formation.

Formations for practicing the layup shot afford a great amount of running and are excellent for warming up a team to start off a practice period or before a game. Players should practice this shot while running at full speed. There are four

different layup shots that every player should develop so he can use them as opportunities present themselves: the right and left approaches when the players deliver the ball with the hand next to the backboard and the shots taken while cutting past the basket from either right or left, when the ball is delivered with the hand farthest from the backboard.

Players should practice two-hand set shots from points where such shots are most often had during games. This is often referred to as spot shot practice. The forwards should practice at shots from the corners of the court and from various points to the sides and in front of the goal. The guards should work more on medium and long shots as used when shooting over a retreated defense. The center or pivot players should practice pivot shots delivered both over-hand and under-hand and taken from various positions around the basket.

Goal throwing practice should occupy twenty to thirty per cent of the practice period. Goal practice may be quite informal each player being permitted to practice at any shot that he chooses and from any position on the floor. During this type of practice, there should be a ball for every three players on the floor. Formal goal practice is very helpful in developing uniformity of shooting. The players rotate in any formation used and take their turn at shooting, following, cutting, and passing.

Some time should be devoted to the practice of free throws every

day. Some coaches have found it helpful to keep a record of the shots made each day. A coach may motivate his players to greater efforts by having a suitable trophy or pin that is retained each week by the player with the best record for the week. This reward may become the property of the individual squad member with the best record for the season.

Free throwing may be broken down into three parts, stance, vision, and delivery. The stance may be the square stance, where the feet are even and a few inches apart, or the short stride stance, where one foot is slightly in advance of the other.

Two methods of visioning the basket are in use, the concentration and the first-sight. Most players prefer the concentration method, where the eyes are directed to the nearest point of the rim of the basket for a short time before the start of the delivery and through the completion of the delivery. I have known a few players who have had better success by using the first-sight method. In this method the vision is focused on the top of the ball or on a spot on the floor that is seen just over the ball, and the eyes are raised to the goal with the start of the motion of delivery.

The delivery is by a full-arm swing from the shoulders with a slight amount of movement in the elbow and wrist joints. There is an upward movement in the wrists at the point of delivery. The player should be thoroughly relaxed before delivering the shot and should make

a full follow-through with both arms after the ball leaves the hands.

While learning the free-throw form, a player should take from fifteen to twenty-five tries without moving from his position. After he has learned the form of delivery, I prefer a practice where but one shot is attempted at a time. A good practice formation is to have four or five players at each goal and have them take one shot and rotate clock-wise to a position to the left of the lane, where they retrieve the ball after the next shot and pass the ball out to the next player to throw as he assumes his position on the free throw line. The players then move to the right side of the lane and next to a position just behind the player making the free throw. This enables him to step into position for his throw with no delay.

#### FOLLOWING SHOTS

Some players follow shots quite naturally while others require coaching. The defensive player has an advantage on following shots, as he occupies a position between his offensive opponent and the goal.

When making an offensive follow-in, the player must move fast in an attempt to get past his guard and gain a favorable position near the basket. It is not considered good practice for a player to charge blindly toward the basket in the hope the ball may rebound toward him. A player should study the ball in its flight as he maneuvers for a favorable position near the basket. He should be in a crouched position near the goal as the ball strikes the

goal and should leap high as possible toward the ball as it rebounds.

If an offensive player is successful in getting the ball, he should:

1. Catch the ball and throw it into the basket before coming to the floor.
2. If unable to catch it, attempt to tip it into the basket.
3. Or catch the ball and pass out to an unguarded team mate.

The defensive player should not permit his vision to follow the ball as an opponent shoots but should watch the feet of his opponent and step into his path as he starts his approach to follow the shot. His follow-in is much the same as for the offensive player except that he must always catch the ball, bring it to the floor, and get it from under the opponent's basket quickly. His pass will usually start a fast break to offense.

A good formation to teach and drill following shots is to form three lines of players in front of the basket, one in the center of the floor, one to the right, and one to the left. The front player of the middle line will take a shot at the basket, and the front man in each line will follow the shot and tip the ball until a field goal is made. They then get in the rear of the line to the left, and the players now at the front of each line repeat the performance. Shots may be taken from both the right and the left lines to give different rebounds and afford practice in judging rebounds from shots taken from different angles.

## GUARDING

It is practically impossible to over-coach a team on individual defensive tactics. Every defensive play situation should be analyzed, and the defensive tactics drilled upon.

Some of the defensive play situations that should be analyzed and defensive tactics drilled upon are:

Breaking up a dribble: 1. From the front. 2. From the side. 3. From the rear.

Guarding a player in his offensive territory: 1. Who has dribbled. 2. Who has not dribbled. 3. Who has not the ball. 4. Who has the ball and has pivoted to face away from his guard.

Guarding: 1. When there are two offensive players down the court on one guard. 2. When there are three offensive players down the court on two guards. 3. To prevent the opponent from scoring and at the same time attempt to gain possession of the ball or a held ball when the offensive team is stalling, in an effort to protect a lead, by holding the ball or passing it among themselves with no apparent intent to gain a scoring position.

Defensive players must maintain a wide stance with the weight well balanced on the balls of the feet. They should feint their offensive opponent into doing what the defense would rather have him do. They should make their approach from a point toward the center of the court in order to turn the offensive player toward the side line away from the goal.

If an offensive player should at-

tempt to dribble around his guard, the guard should not reach for him with outstretched arms but should keep his body between his opponent and the goal by a series of side steps, called lateral guarding steps or a slide. This lateral guarding step with a forward and a backward slide should be practiced daily.

## FOOT WORK

Clever and positive foot work is very necessary in the fast moving game of the present day. Starting, stopping, turning, pivoting, and reversing are the offensive phases of foot work to be taught. Fast starting depends upon a good stance and an alertness to the play situation so that one may know when to start advantageously.

The three recognized stops used are: 1. The two foot or jump stop, where both feet are even and well spread. 2. The stride stop, where one foot is in advance of the other in a short stride. 3. The jump-turn stop, where the player jumps from the floor with both feet, turns, and lands on both feet facing the opposite direction.

In all stops, the feet should be set flat on the floor with force, and the toes should be pointed directly forward. The knees should be well bent and the buttock held low. Practice at starting and stopping should be included in practice formations when other fundamentals are drilled.

Turning is an abrupt change of direction. The toe of the foot opposite the new direction is turned to-

ward the new direction as the foot is brought forcibly to the floor in a running stride. The opposite foot follows with a step in the new direction. The use of the various crisscross plays affords excellent drill in turning.

A player may pivot forward or backward. In either, there should be a forceful push from the foot that is to move as the body weight is shifted over the pivot foot. This will supply the force that carries the player through the pivoting movement. The moving foot should be carried close to the floor, and the pivot foot must remain at its point of contact with the floor.

#### DRIBBLING

Dribbling is an individual means of advancing the ball. A player should never dribble when it is possible to pass to advantage. According to rule, a player must have control of the ball before it is considered that he has started a dribble.

Dribbles may be classified as high, low, and medium according to the distance the ball is bounced from the floor. The average height of the dribble most used is between knee and hip.

Every dribbler should have a trailer. The player trailing should not follow too closely. He should be ever ready to cut past the dribbler and take the ball if the dribbler should pick up his dribble and pivot. "Dribbler and trailer" is what I call an excellent practice drill that includes a number of fun-

damentals. The squad men should pair off and each pair take their turn at carrying the ball twice the length of the floor. One player dribbles a short distance, then stops, picks up the ball, and executes a backward pivot. The other member of the pair trails the dribbler. He increases his speed by a change of pace as he cuts past his partner who has just pivoted and receives the ball to start a dribble while the former dribbler becomes the trailer. The trailer may feint to go to one side of the dribbler and cut sharply to the opposite side. The trailer will usually go to the side toward which the dribbler pivots, as the sweep leg of the pivoter will usually screen the opponent from sliding to meet the trailer.

#### JUMPING AND TIPPING THE BALL

Jumping and tipping the ball applies to the play at the center jump and to the jump following a held ball. Most players can get greater height when they face forty-five to ninety degrees to the right or left and reach for the tip with the arm nearest the opposing jumper. A player will commit fewer fouls while jumping if he uses this arm in reaching for the ball.

Regardless of the system of offensive team play used, it is necessary that the individual members of the team be well schooled in the fundamentals or game elements. Drills in the various fundamentals should occupy a part of every practice session.



# CAMPUS ACTIVITIES

On Nov. 4, the Festival Orchestra, with Walter McCray conducting, opened the first session of the Kansas State Teachers Association at Kansas City, Kans., with a forty-five minute program.

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President Brandenburg during the month of November addressed students and faculties of six state teachers colleges of Oklahoma concerning standards in these institutions.

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Ted Shawn and his ensemble of eight male dancers presented "O Libertad," an American saga in three acts in the auditorium of Carney Hall Thursday, November 17.

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Dr. Ernest Mahan, professor of history, was on sabbatical leave from the College during the academic year 1937-1938. He combined travel and research in the preparation of a work on *Joseph Smith and the Early Mormons*. Dr. Mahan visited places of special interest in connection with early Mormon history from Joseph Smith's birthplace in Vermont across the country to Salt Lake City.

Miss Pearl Garrison of the Home Economics Department spent the Christmas vacation in the Rio Grande Valley, Texas, and Monterey and Sotillo, Mexico, returning through Galveston, Shreveport, and Little Rock.

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Dr. O. P. Dellinger and Dr. Jacob Uhrich of the Department of Biology, accompanied by Mrs. Dellinger, attended the meeting of the American Association for the Advancement of Science at Richmond, Virginia, during the Christmas holidays.

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While on a visit in New York at the holidays, Dr. Mellicent McNeil, head of the English department, saw the most important plays that are running on Broadway this winter. She will report on them to her classes in Contemporary Drama.

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Dr. R. Balfour Daniels, associate professor of English, attended the annual convention of the Modern Language Association of America in New York Dec. 28-30. He also attended the annual dinner of the Mediaeval Academy Dec. 28.

The most recent of several magazine articles on educational topics published by Dr. J. Gordon Eaker of the English Department in the last two years is on "Aesthetics and Education" appearing in the November issue of the *Educational Forum*, official publication of Kappa Delta Pi. The article has as its theme how educational philosophy might enrich itself by incorporating more completely the philosophy of

literature and the fine arts which is largely aesthetics.

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By a new plan now in use for the second year, the student editor of the *Collegio*, the college newspaper, is elected every nine weeks instead of annually as formerly, with eligibility for one re-election. The change permits more students with journalistic ambitions to gain the experience of the editorship.

## FIELD NOTES

Mr. Karl Rodick, graduate of the College, who is taking work at the Eastman School of Music, Rochester, broadcasts at 10:30 every Saturday morning over N. B. C. On Christmas day Mr. Rodick broadcasted on the Italian Hour over the CBS.

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Miss Agnes Crow, who received the B. S. degree from the College in 1921, and the M. A. degree from Columbia University in 1926, has been recently made counselor of the Mathematics Department of Detroit, Michigan. She is chairman of the mathematics section of Region I of the Michigan Education Association and president of the Detroit Mathematics Club, which has a membership of 325 persons.

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Dr. James Mendenhall, graduate of the College, 1924, has just accepted an appointment to Stephens College, Columbia, Missouri, as professor of consumer education. Dr. Mendenhall is the son of Professor and Mrs. Mendenhall of the College.

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Mr. James Evans, M. S. 1930, was a member of the faculty in Duke University last summer. This year he is teaching in St. Joseph, Missouri.

Miss Esther Louise Anderson, B. S. in history, 1933, was elected to the position of state superintendent of Wyoming. She is a member of Phi Alpha Theta fraternity.

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Irwin Luthi, M. S., 1935, with a major in history, traveled in Europe during the summer of 1938. This year, he has been promoted to the position of vice-principal in the senior high school of Russell, Kansas.

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An important outlet for graduates with a good training in mathematical statistics, particularly for those with a master's degree in this phase of mathematics, is now found in the various federal and state departments where statistical investigations are being made. Recently Mr. George C. Kelley received an appointment as computer to the Civil Service Commission. He took an examination almost two years ago for a junior actuarial mathematician, and this appointment is in recognition of his standing in that examination. He resigned from the high school at Russell, Kansas, to take up this new work on Dec. 1 at Denison, Texas. Mr. Kelley received the M. S. degree in 1937 from the College.

Clifford Johnson, a graduate student of the College, accepted in November the position of superintendent of schools at Peru, Kansas. He received the B. S. degree with a major in history in 1924.

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Robert Woodbury, a pre-medic student in 1920-22, is associate professor of physiology and pharmacology at the Georgia University School of Medicine, Augusta. Dr. Woodbury received the Ph. D. in 1931 from the University of Kansas and the M. D. in 1934 from the University of Chicago.

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Leland Gier, B. S. 1930, M. S. 1931, and Henry H. Dunham, A. B. 1935, presented papers at the American Association for the Advancement of Science meeting at Richmond in December. Mr. Dunham's paper concerned colchicine treatments of *Daphnia longispina*, and Mr. Gier's was on distribution and development of tobacco roots.

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John Schwab, A. B. 1937, who for the past year and a half has held an assistantship in the Department of Bacteriology at Ohio State University, has been recently promoted to the position of research assistant to Dr. N. P. Hudson, head of Department of Bacteriology. Mr. Schwab will be engaged in research on poliomyelitis (infantile paralysis). This research is made possible through a special grant to Ohio State University from the fund collected for President Roosevelt's Warm Springs Foundation.

Miss Ruth Grotheer, who received her master's degree from the College in 1933, accepted a position this fall as primary supervisor in the training school of the State Teachers College, Dillon, Montana. Miss Grotheer writes she is enjoying her work and finds the country about Dillon interesting.

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Miss Eula V. Flagler, B. S. in Art, 1931, who teaches in Des Moines, has completed work and will receive her master of arts degree from Columbia University this semester. While there she was given recognition for one of her designs which was reproduced in *Art Education Today* for 1938, the annual sponsored by members of the Fine Arts staff.

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Professor Melvin G. Nydegger (B. S. 1927, A. M. Wisconsin), of the Allen Military Academy and Junior College at Bryan, Texas, announces an arrangement for the exchange of students with the Ramirez Military Academy of Bogota, Colombia. Under this plan a professor and nine students have already arrived in the United States and are spending two months at the Allen Academy. The return group is expected to leave the United States for Bogota next July under the direction of Professor Nydegger for two months' study there. So far as is known, this is the first student exchange between high schools of this country and South America, in which each group acts as an independent unit and at minimum expense.

## COMMENTS ON BOOKS

FAREWELL TO COMPETITION  
*Modern Economy in Action*

By Caroline F. Ware and  
Gardiner C. Means

Published by Harcourt, New York City,  
1936.

*Lament for Economics*

By Barbara Wooten

Published by Farrar and Rinehart, New  
York City, 1938.

*Modern Competition and Business  
Policy*

By H. S. Denison and J. K. Gal-  
braith

Published by The Oxford University Press,  
New York City, 1938.

Competition is fast vanishing from the economic scene. It still lingers in the reasoning of judges, lawyers, and many farmers, but as a force in the determination of prices it is being replaced by other forces.

Supply, demand, competition, and a free market were the watchwords of the old economy. But that prevailed when nature was the only cause of scarcity. Today producers have gained control over supply to such an extent that they are able to exercise jurisdiction over price. Flexible prices were a characteristic of the old economy. These are giving place to prices relatively

rigid and inflexible. This swing from the old economy to the new economy results largely from the nature of our social organization. Our economic philosophy not only renders our society allergic to the growth of combinations of producers, but also makes it difficult to apply legal restrictions to such growth. If producers decide not to produce or if producers are determined to produce, it is difficult to change their decisions by legal means.

The corporate form of business, the holding companies, and the enormous credit structure entailing large fixed costs make possible the system of rigid prices.

Agriculture is the only major part of our economic life which still operates under the old economy. The farmers produce all they can of everything all the time and let supply and demand determine the price. Nature and human energy are the only limits to production, and the farmers object to any other limits. They produce for the market. Other producers limit the production to what they think the market will absorb at a determined price. If they overestimate the market, then they resort to high pressure salesmanship and advertising

to induce people to buy, without lowering the price.

The three books mentioned above give brief but effective discussion of this change from the old economy with its competitive prices to the new economy with its administered prices.

O. F. Grubbs

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*The Social Life of Animals*

By W. C. Allee

Published by W. W. Norton Publishing Co.,  
70 Fifth Avenue, New York City, 1938.

The principle of cooperation among animals is as real as the principle of the struggle for existence, Dr. Allee maintains in his new book. He amply supports this idea with a large variety of facts.

Social life has its beginnings in relatively simple organisms and has developed independently among many kinds of animals by a series of transitions. Man's social life is but one among a variety of social organizations among animals.

In his chapter on "Some Human Implications," the author presents a large array of evidence that war is neither biologically necessary nor biologically desirable. His sound and enlightened discussion of war as a form of man's behavior is particularly timely.

A few chapters dealing with

numerous careful studies of the social behavior of some so-called lower animals may be of more interest to the biologist than to the layman, but all parts of the book are very readable and many chapters are of general interest.

This book was selected by the Scientific Book of the Month Club.

—J. Urich

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*Tomorrow's Children: The Goal of Eugenics*

By Ellsworth Huntington

*In conjunction with the directors of  
the American Eugenics Society and  
other collaborators.*

Published by John Wiley and Sons Inc.,  
New York City, 1938.

This brief but very valuable book consists entirely of questions and answers, clearly and simply stated in non-technical language—questions and answers dealing with the ideals, principles, and methods of the science of eugenics looking toward the betterment of the human race. Its simple presentation and its authentic and practical information make it an excellent source of information for the parent, the teacher, the minister, the social worker, the government official, and anyone else concerned with human welfare.

—J. Urich

# WAYFARING

*This column is devoted to notes and letters from faculty members away on leave or from other friends of the College who are doing interesting things.*

London, England  
November, 1938

## ENGLISH LIFE DESCRIBED

Dear Editor:

While waiting for books in the British Museum Reading Room, I shall record a few impressions of an American wayfarer in The British Isles.

This room is really worth serious attention. It is circular with books in open shelves around the walls. Catalogues, volume after volume, are on circular counters surrounding the attendants' desks in the middle of the room. The wickets are designated A-E, S-Z, etc., and the reader chooses one wicket for returning books according to his own name. Readers' desks radiate like spokes of a wheel from the middle counters. The desks have good equipment, shaded lamps, pen and ink, folding shelves, comfortable chairs. The ceiling is a great dome and the general decorative color scheme is conservative and pleasing.

I try to be an effective sight-seer on some days and an industrious student on others. As a tourist, I

have spend four afternoons in the British Museum, not in the reading room.

So far I have been unsuccessful in unraveling the intricacies of the British system of higher education. I am enrolled in the Institute of Historical Research of the University of London. The secretary has promised that I shall have an interview with some member of the Education Department before the term is over. Evidently the motto is "Nothing in haste," for I know of a student who had the A. B. degree conferred by Oxford, Nov. 19, though his final examinations were taken last summer. But I hasten to add that English punctuality is a joy and a marked contrast to the Irish indifference to time.

The University of London is engaged in a great building program. At present the numerous colleges are scattered all over the city. The new buildings are all to be in Bloomsbury, and it is claimed that it will be the largest university in the world on one site when it is completed. One of the newer buildings is the Senate House, which at

present houses the School of Education and the Institute of Historical Research. The central tower, I am told, is the tallest in London, though not yet a "skyscraper." The upper stories cannot be occupied at present because they are higher than the municipal laws allow. It is expected that these regulations will be modified later.

London is not a city of high buildings. Perhaps that accounts for the sun, moon, and stars being more in evidence than in some cities, that is, in evidence when there isn't fog. It seems to me that Londoners should learn to induce as a means of defense against air raids the blanket that nature produces so effectively.

The state procession at the opening of Parliament Nov. 8 was a great and colorful pageant, and the booming forty-one gun salute made chills run up the spine. Through sheer ignorance I missed the Lord Mayor's pageant the next day.

I attended the organization of the Commonwealth and Empire group at this University where Americans are invited. I was interested in a Canadian's insistence that representatives of Canada be a part of the administration committee. He said, "We Canadians are

British Canadians, but we are also Americans, and we wish always to be associated with the United States." He lost his point, partly because of the intervention of Americans present. Another Canadian remarked in an aside, "Isolationists again!"

Recently I spent several days at Oxford, most of them buried in the library. I took one gorgeous day for sightseeing. My camera was absent-mindedly left in my room, but I consoled myself by thinking that I could note scenes that I wanted and take them the next day. Alas for manana philosophy! The next day was gray and dull.

A part of the *Alice in Wonderland* manuscript and some of the early editions are in the Christ Church Library. The custodian showed me where she played, but he urged me to keep to the side of the window so I would not be observed.

I realize that I am going to miss seeing many worth-while things in Britain, but I suppose samples will have to do. I plan to sail for St. Malo, Dec. 28, to start my French visit with the abbey of Mont Saint Michael.

Sincerely yours,

Elizabeth Cochran



## Contributors to This Number

HAZEL CAVE (M. S., University of Wisconsin) is acting director of the department of health and physical education for women. She is the present secretary-treasurer of the Kansas Health and Physical Education Association.

GARFIELD W. WEEDE (D. D. S., University of Pennsylvania) has been the director of the men's department of health and physical education since 1919. He is sometimes called the "Dean of Kansas Coaches" because of thirty-two years of continuous service in the state. As head track coach, he has to his credit twelve championships in the last fifteen years.

ORIS P. DELLINGER (Ph. D., Clark University) is head of the department of biological sciences and chairman of the Graduate Council. He is a fellow of the A. A. A. S., life member of the Kansas Academy of Science, holds a membership in the American Genetics Association and the National Association of Biology Teachers, and is chairman of the Committee on graduate study of the American Association of Teachers Colleges.

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biology and director of the museum. Before coming to the College he taught in the schools of Missouri and Kansas. He is a member of the A. A. A. S. and president of the Kansas Academy of Science for 1939-1940.

J. RALPH WELLS (Ph. D., Washington University) is professor of biological sciences and chairman of the College health committee. He has memberships in the American Association for the Advancement of Science, the Society of American Bacteriologists, the American Public Health Association, the National Tuberculosis Association, the Governing Council of the Mississippi Valley Conference on Tuberculosis, the Kansas Clinical Laboratory Association, the Kansas Mental Hygiene Association, the National Association of Biology Teachers, and the Kansas Academy of Science (life member).

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