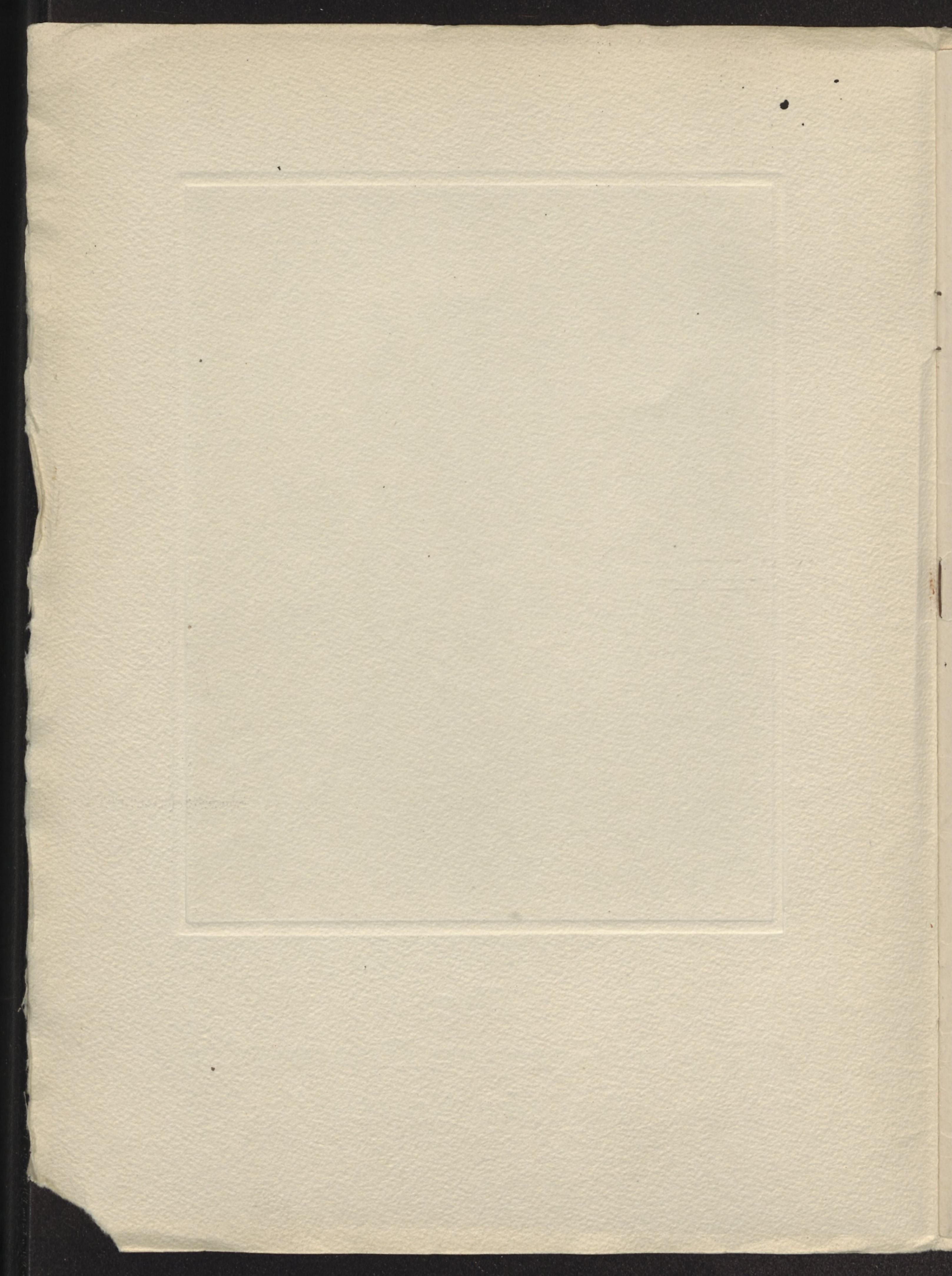


The Way to Greater Prosperity for the South



Southern Association of Science and

FROM: Judustry.
Judustry.
Those Who Believe in the South.

Those Who Believe in the South

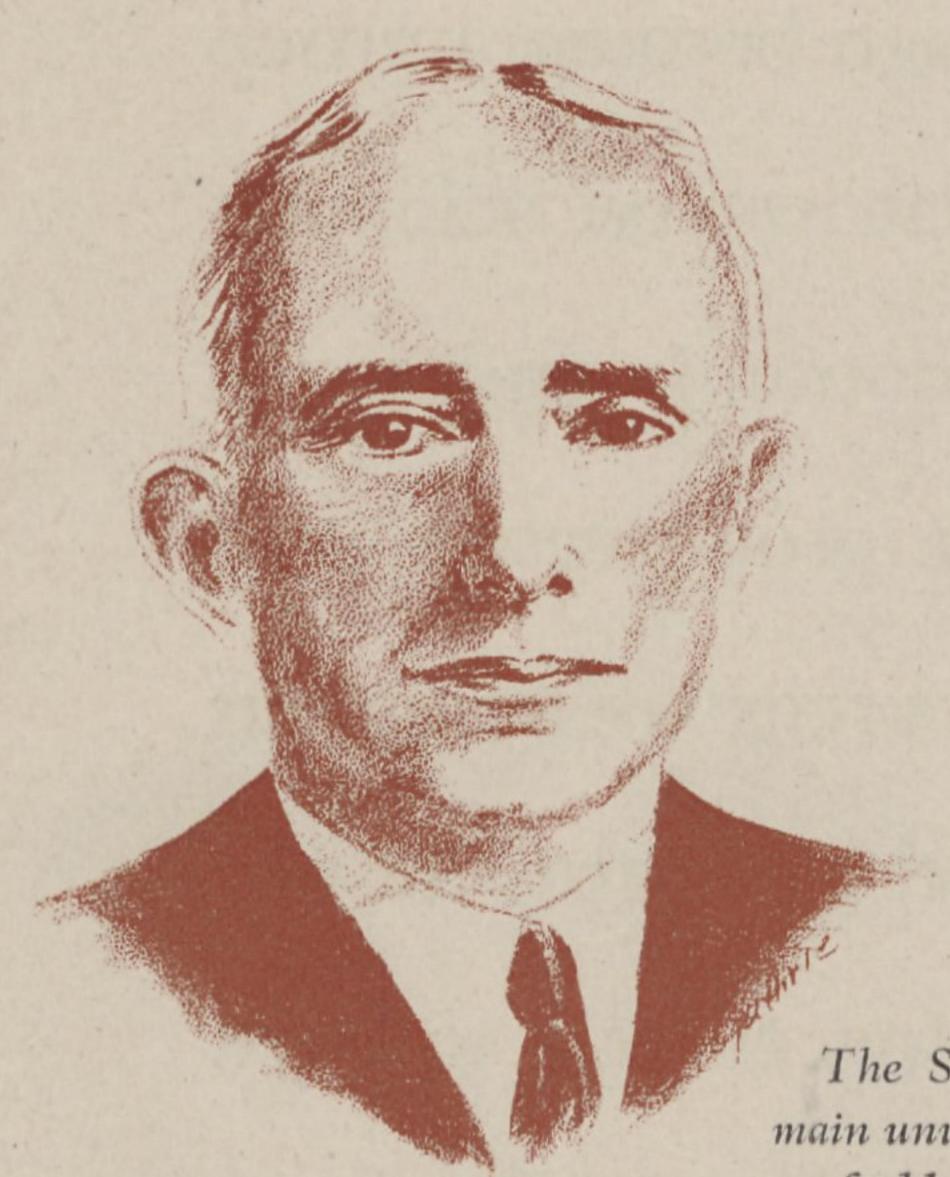


I attended a funeral once in Pickens county in my State. It was a poor "one gallus" fellow, whose breeches struck him under the armpits and hit him at the other end about the knee . . . They buried him in the midst of a marble quarry: they cut through solid marble to make his grave; and yet a little tombstone they put above him was from Vermont. They buried him in the heart of a pine forest, and yet the pine coffin was imported from Cincinnati. They buried him within touch of an iron mine, and yet the nails in his coffin and the iron in the shovel that dug his grave were imported from Pittsburgh. They buried him by the side of the best sheep-grazing country on the earth, and yet the wool in the coffin bands and the coffin bands themselves were brought from the North. The South didn't furnish a thing on earth for that funeral but the corpse and the hole in the ground. There they put him away and the clods rattled down on his coffin, and they buried him in a New York coat and a Boston pair of shoes and a pair of breeches from Chicago and a shirt from Cincinnati, leaving him nothing to carry into the next world with him to remind him of the country in which he lived, and for which he fought for four years, but the chill of his blood in his veins and the marrow in his bones.-HENRY W. GRADY.

The Way to Greater Prosperity for the South

THE Southern Association of Science and Industry came into being some four years ago because a group of Southern business men, educators and scientists sincerely desired to foster the economic and social development of the South. The group recognized the fact that too many of our resources are going out of the South as raw materials and too many of our young college graduates are being forced to seek their wealth or professional opportunity elsewhere.

Southern Association of Science and Industry members wanted to know why the South, with vast supplies of human and material raw products, could not use these resources to become as prosperous as other sections of the Nation.

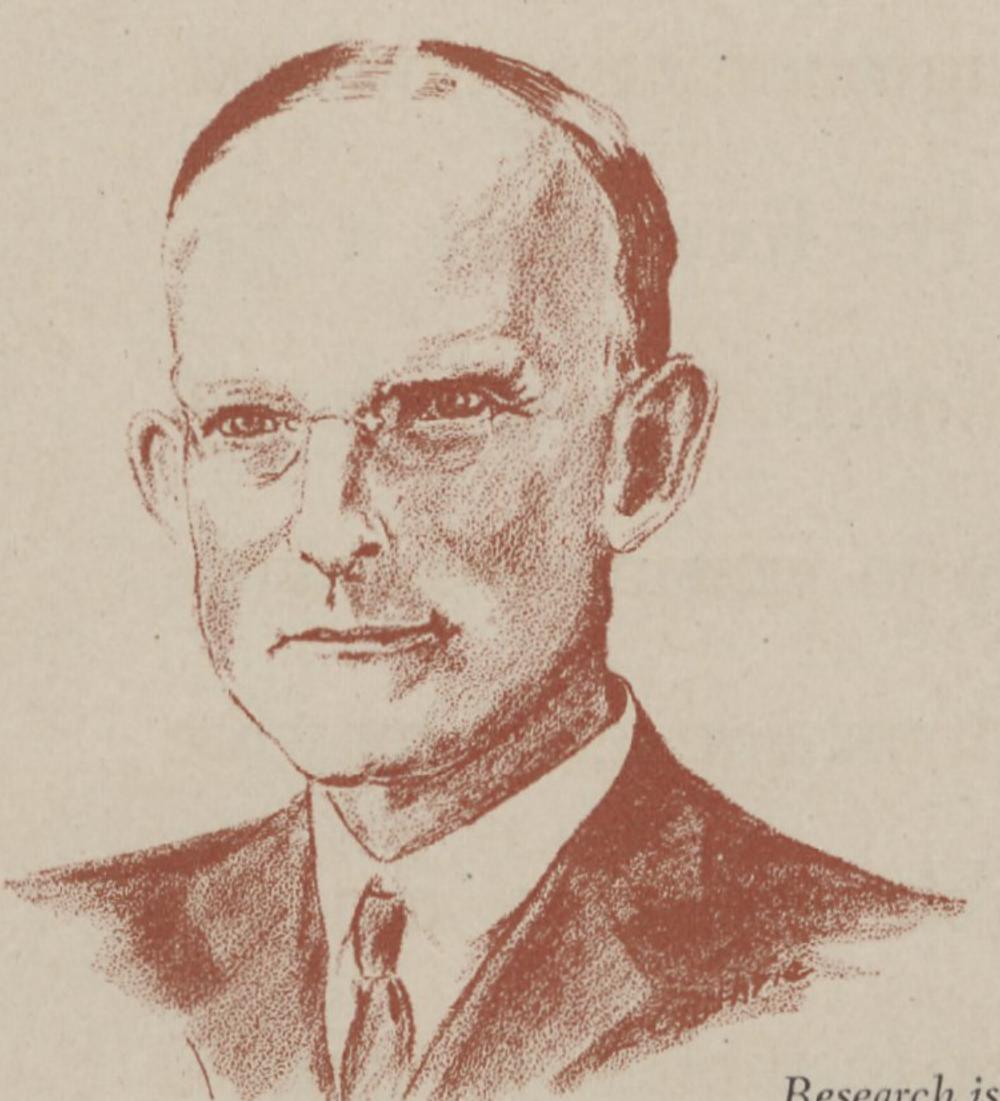


The South can no longer permit its vast resources of raw materials to remain unused, but must instead do what is necessary to bring these materials into profitable use for comfort and enrichment of the region. If we, however, in the Southern area grow only the things in agriculture that we have been growing, and no more cheaply, and use them in the same manner; if we manufacture only things we have always made, and in the same traditional way; if we use our forests and minerals only as they have been used in the past decades, we shall remain, as we have been, primarily a producer of raw materials.

Improvements in industry should not be left to chance in the hope that someone sometime will think of some useful way of developing some resource of the area and put it into production. Rather, the only way to be effective is to organize for industrial research so that new knowledge shall always be coming from researches in the sciences and engineering arts on which business is based. From that steady stream will arise inventions and new methods, new materials and improved products.—THOMAS W. MARTIN, President of the Alabama Power Company, Chairman of the Board of the Southern Research Institute; Vice-President of the Southern Association of Science and Industry.

The Southern Association of Science and Industry was inspired by able Southern business men, educators, and scientists, meeting together, to apply itself to a solution of this problem. For four years it has studied not only the reasons for the poor relative position of the Southern states in comparison with other states, but the ways and means used by our neighbors to reach their enviable positions, despite the fact that they had in most instances to obtain their raw materials from the South.

The answers reveal our own shortcomings and the formulae through which other states have built their prosperity to a high level without the great natural wealth that is inherent in the lands and crops of the South.



Research is not confined to chemistry, physics, engineering, biology, medicine. We need research in law, in the social sciences and government, to tell us how to live together better, in economics and education and psychology.

Genuine and fruitful research is effective for long only in a free country. It mixes with Hitlerism no better than oil with water. * * * Research is no respector of race or nationalities or color or creed or social standing or of wealth. Raman, the Hindu; Madame Curie, the Pole; Haber, the Jew; Takamine, the Japanese; Rutherford, the New Zealander; Fermi, the Italian; stand alongside the many British, American and French and German discoverers of the first rank. If research must mould its results to conform to an official creed or theory, or governmental form, the springs of inspiration soon dry up.

When it appropriated money for research, the Legislature of Alabama turned its eyes from the past and fastened them on the future. If our lawmakers think it worth while to vote funds for pure research, individuals, foundations and trusts with money to spend usefully, will promptly follow suit.—STEWART J. LLOYD, Dean, School of Chemistry, Metallurgy, Ceramics and Assistant State Geologist, University of Alabama, University, Alabama.

On these findings the Southern Association of Science and Industry has built its program, and it invites you to join in its execution to the end that the South may prosper.

Our program is clearly defined. One of its primary objectives is to improve the educational facilities of the South so that our boys and girls may be able to get adequate training in research and the sciences in Southern institutions. This will require the expenditure of many millions in the construction of laboratories and the establishment of research libraries and other research facilities.

Modern science and invention in the main can be successful only with these facilities available to our scientists. Their establishment in the South will



At the beginning of her history, the South had a very high valuation in natural resources. Other factors were on the debit side of the ledger. The mild climate, so favorable to production of varied crops, provided little protection to the soil through freezing in winter and permitted the destructive forces to operate practically throughout the year. Her relatively high rainfall magnified erosion processes on a year-round basis. The South's failure to conserve its soils has seriously threatened its future economy.

The waters must be held where they fall by restoration of forest cover and promotion of close-growing crops, especially on sloping lands. The fertility and stability of the soil must be restored by grass and legumes, livestock manures and phosphates, gully filling and planting, and by mechanical measures where needed. Forests must be protected from fire, reforestation must take place, game must be restored, and fresh waters stocked with fish. The resources of the South must be conserved and rebuilt to insure the future of the people of the South.—CARLETON R. BALL, Executive Secretary, Coordinating Committee of the U. S. Department of Agriculture, Washington, D. C.

be of the utmost importance to the development of our industries and the discovery of new methods of utilizing our raw materials in the manufacture of finished goods.

Technological research creates new finished goods industries. SASI would encourage the South to provide facilities for a constant and intensive study of its resources so that finished goods, and not the furnishing of raw materials, may be its source of wealth.

Research and invention go hand in hand. Our own investigations show that the manufacture of new products takes place where invention and science have created them. Industrial development is greatest in those areas where the most patents have been granted. To perfect their inventions, and to add new



The South is a land of good people, intensely patriotic citizens, fertile valleys, wonderful mountain ranges, rolling hills, rich coastal plains, great and small rivers, lakes, inland waterways and a tremendous seacoast. It is blessed with great forests, abundant minerals, diversified agricultural resources, ample rainfall, ground waters, excellent range of climate, splendid cities, good towns, picturesque villages, cultural, educational and religious institutions, a plentiful supply of electric power, excellent railroads, airways and seaports.

To these worthwhile assets there is being added another important factor, RESEARCH, which will help this region bring about a greater utilization of its resources and facilities . . . help it to become a creator and manufacturer of new products as well as a user of them for better and happier living.

The present world war has broadened the visions of millions of people as to the resources of the South and the unparallelled opportunities here for the utilization of the brains and brawn and energy of home folks and newcomers in creating through science and invention and investment of capital a great industrial empire.

With a program of rededication to spiritual values, revitalization of the spirit of free enterprise, the will to live, the inspiration to discover, the desire to gain, the determination to conquer, and continuous aggressive research, the South will realize a long overdue industrial transformation and reach a new level of attainment.—HOMER M. PACE, Vice-President, South Carolina Power Company, 141 Meeting Street, Charleston, South Carolina.

ones, these established industries are utilizing today our graduates with the technical skills upon which we must depend to build the South of tomorrow.

The second point in the SASI program is to create an appreciation by Southerners of the opportunities and resources offered by the South. To achieve this goal it is proposed that the South study itself, through the schools.

Toward this end the SASI has enlisted the cooperation of the leading educators of the Southern states in utilizing our educational facilities to direct attention to Southern resources. Its committee is active and within a few months will have prepared a program that SASI hopes to have universally adopted in Southern curricula. The success of such an effort

SCIENTIFIC RESEARCH... The Hope of the South

Editorial Comment on the Objectives of the Southern Association of Science and Industry

SCIENCE AND INDUSTRY—The interdependence of science and industry takes on a Dixie tinge in Birmingham Friday with the annual meeting of the Southern Association of Science and Industry. The convention, streamlined in accordance with the spirit and necessities of the times, is giving a day of concentrated thought to the future of industries in the South after the war.

It is significant that the answer to the question of what will be the postwar future of the industrial South is not one to be given by industry alone. Industry knows its dependence upon science, not only the science of its own laboratories, but also the pure and experimental science in college laboratories.

It can be assumed, however, that these men of science and industry in their deliberations Friday are not forgetting the far-reaching social implications of their work. They will deliberate in vain and to their own ultimate disadvantage if they forget that meeting with them in spirit are all the millions of consumers, of workers, of those who are neither scientists nor industrialists, but whose continued well-being should be the ultimate aim of all that science and industry undertake.—Birmingham Age Herald.

THE SOUTH'S CONTRIBUTION—The Southern Association of Science and Industry, of which Dr. Milton H. Fies, vice-president of DeBardeleben Coal Corporation of Birmingham, is the president, at a meeting held a few weeks ago approved a report from its Long Range Planning Committee, which we believe is worthy of more than passing notice.

The chairman of the Planning Committee was L. C. Bird of Phipps and Bird, Inc., of Richmond, who is president-elect of the Southern Association. The report, as Chairman Bird states, calls for the following:

- 1. That there be an inventory of the Southern resources.
- 2. That research methods be applied in developing the resources.

Analysis of these goals makes it apparent that the Long Range Planning Committee has not cut out an easy or simple program. The Free Press believes that the tremendous task involved in the undertakings, which the committee has outlined and recommended, is worthwhile and the effort will be justified if the plans are developed to full fruition of their possibilities.

Space does not permit publishing the complete report and detailed recommendations of the Committee. The idea, The Free Press believes, will appeal to every intelligent Southern person, who knows that the South is traditionally and actually a region of vast and almost countless resources and opportunities.

Success for the plan of the Southern Association of Science and Industry would not only place the South on a par, but would, we believe, make it the peer of any like region on the face of the earth.—Kinston Daily Free Press (Kinston, N. C.).

SCIENCE IN THE SOUTH—Scientific research, where it has been encouraged, has brought the South so much benefit that there is real meaning in the demand for more Southern laboratories, strongly voiced in the leading article of a recent issue of *Science*, official organ of the American Association for the Advancement of Science.

The South ranks painfully low in scientific research, one must repeat, but the South has received manifold return from the little research that has been conducted. As Dr. George D. Palmer points out in *Science*, the well-known work of the beloved, the inimitable Dr. Charles H. Herty, the great pioneer in the chemistry of the pine tree, is a perfect example of what determined scientists can do in this region.

In the South today there is less of the defeatism that springs from inadequate financing. For the region as a whole, encouragement and stimulation are to be found in the ten-year program of Southern "economic and cultural enrichment," which the Governors' Conference has sponsored. This program is to have its climax in 1950, when a World's Fair is to be held in the South. For Virginia, more immediately, there are bright prospects in the work of the Academy of Science which is organizing a "long-range planning committee" to promote scientific research on a large scale.—Richmond News Leader

RESEARCH FOR THE SOUTH—The Southeastern Association of Science and Industry, meeting at Raleigh, North Carolina, is concerned with matters of basic importance to all the interests and all the people of our region. Science and Industry are co-workers and together they can multiply the South's prosperity a hundred, a thousand fold. The master key of Science, as the friend of Industry, is research. Georgians well remember how Dr. Charles H. Herty, one of the truly great chemists of his era, spent long years delving into the industrial possibilities of our common field pines. When he began his studies and experiments it was generally supposed that these quick-growing trees were unsuitable to the manufacture of the better grades of paper, including newsprint; but when he had finished, the foundations were laid for a vast new province of cellulose industries, supplied by a hitherto neglected surplus of our woodlands.

How can we develop an adequate program of research for the development of our immense but largely latent Southern resources? Through the co-operation of educational and industrial leadership. That is the answer of men who have pondered the question broadly and practically. Our universities and technological institutions must be provided with

the graduate schools which will enable them to serve Southern students who now must go elsewhere for advanced studies and training and with the research facilities which will equip them for intensive work on Southern problems and opportunities. The fact that our far-sighted industrialists recognize this need and are ready to do their full part in meeting it is one of the great assurances of an advancing South.—The Atlanta Journal.

THE SOUTH AND CHEMISTRY—John Temple Graves 2d quotes Dr. George D. Palmer of the Alabama Academy of Science, as stating that the number one problem of the South is the "utilization of its resources through scientific research."

Continuing columnar comment on science and the South, Mr. Graves quotes Georgia's geologist, Garland Peyton, as saying that this region is destined to become the greatest chemical manufacturing region in the nation, because of its large quantity and diversity of natural resources. This prediction seems to be sound in the light of present-day developments. Peyton points out that during the past three years there has been more actual construction of chemical plants or total expenditure for chemical plants, in the Southeast than in all the rest of the United States combined.

But it must be remembered that all goods must come from material of some kind. If chemistry teaches us how to make cloth from wood instead of cotton and wool, cotton farmers and sheep raisers will still have something to do. If nothing else appears they can turn their energies toward the growing of trees. But the cotton plant, once grown almost exclusively for its cloth possibilities, will continue to be grown for its potentialities in the production of ice cream, cotton oil, oleomargarine, etc.

Thus the answer to the interrogatives of those who fear the phantom of synthesis is that even a substitute or synthetic commodity is invariably derived from certain raw materials. Somebody must produce and supply those raw materials. Thus an agrarian South can rest assured that the coming of chemistry to it is a blessing, not a disadvantage. For the South is wonderfully blessed with many of the vital materials needed by the advancing chemistry of the modern age.—Twin City Sentinel (Winston-Salem, N. C.).

THE NEW SOUTH—"In order that the South shall contribute its full part to the national welfare of this country and improve the status of its own economy, it is necessary that we first determine the position which the South should occupy, or occupies, in the industrial economy of the nation. To accomplish this we must have as complete and dependable an inventory as possible of the resources of this area."

With this statement the long range planning committee of the Southern Association of Science and Industry propounds what may be called a declaration of self-reliance in the solution of economic and industrial problems which have gone unsolved for too many years with the result that the southern states, generally speaking, have lagged behind the rest of the nation.

The association through its planning group proposes that to accomplish the first aims of its undertaking it should do everything possible to make sure that the standard of southern technological education "shall be on a par with the rest of the country." And it proposes also to offer the

necessary incentives to skilled enterprise and initiative in order to make sure that the South shall have the services of scientifically and technologically schooled men and women, trained in the South to handle southern materials and southern problems.

Research methods are to be encouraged in order to implement the broad aims of the association, and a method of coordinating the findings of research in various fields is to be

worked out.

Special consideration is to be given to the needs of the postwar era so that the South may determine its competitive position with relation to the rest of the country and the world, and the work of planning groups in the several states is to be correlated so that their effect upon the economy of the whole southern region may be evaluated.

—Daytona Beach Daily News.

CHALLENGE TO VIRGINIA AND THE SOUTH— Dean Wortley F. Rudd, of the Medical College of Virginia, · first president of the Southern Association of Science and Industry, told the opening convocation at the University of Richmond on Friday that "the South is not Economic Problem No. 1, but Opportunity No. 1." He is right, and the sooner Southern leadership grasps this conception, and begins working toward making it a reality, the better.

One of the most effective ways in which the South can be transformed into the nation's principal asset is through the Southern Association of Science and Industry, of which Dean Rudd was president in 1941, and Lloyd C. Bird, of Richmond and Chesterfield County, recently nominated to the Virginia Senate, will be president in 1944. This excellent organization seeks to bring about the development of the South's vast resources through closer co-operation between industry and science. It has great potentialities for good.—Richmond Times-Dispatch.

EXPANDING OUR OPPORTUNITIES—Dr. Wortley F. Rudd, a former president of the Southern Association of Science and Industry and now a member of the long range planning committee of the association, has hit upon a post-war point of view that is worthy of consideration by every Southerner.

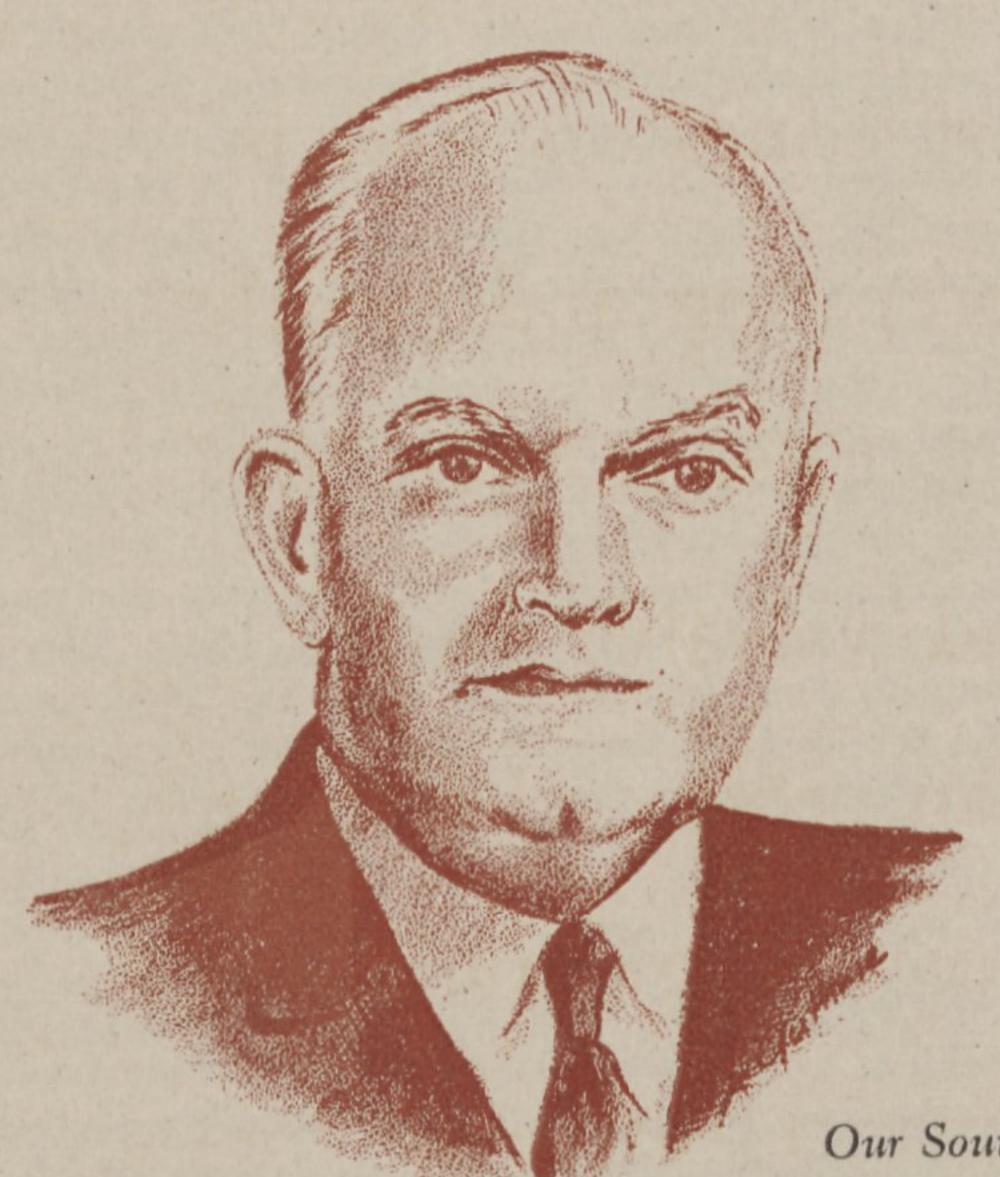
The change in emphasis of the thinking of Southerners is urged by Dr. Rudd in that he advocates viewing the South as Opportunity No. 1 rather than Economic Problem No. 1. Dr. Rudd declares that such a status must come about if the South is ever to achieve its proper place in the

national economy.

We cannot expect to hold our young people in the South when industry and professions in other sections offer more lucrative positions. Yet we cannot change this as long as the South remains primarily an agricultural section. The present war may change this picture. We are finding more industries being located in the South and those which will be permanent after the war is over will help to build the South economically.

The South need not be Economic Problem No. 1 after the war if we take the best of the war-born industries, preserve them and build up new ones to fill in the gap between the raw materials and the finished product.

-Tuscaloosa News.



Our Southland has had a problem for a great many years. We have had the resources, but we haven't had the vision to develop them scientifically for use in our Parade of Progress.

Knowledge is a grand thing, and the acquisition of knowledge is very desirable. But to know something, is far more gratifying if you know it with people who use it properly, and I feel that is exactly what the SASI is doing. It is pointing the way and offers a tremendous opportunity to the farseeing men of our land to participate in and be a part of a prosperous and progressive South.

It is most gratifying to see and have a part in the work of the Southern Association of Science and Industry, and I count it a great privilege to be afforded the opportunity of sitting down with and discussing the ways and means of bringing about a renaissance in the scientific and industrial welfare of the South.

—CHARLES NELSON, President, Nashville Trust Company, Nashville, Tenn.

should be an important step in interesting our youth to devote its energies to Southern development.

Step three in SASI's program follows: Under the direction of many of her ablest educators and industrialists, this association is preparing and shortly will publish AN INVENTORY OF SOUTHERN RESOURCES—a mammoth and valuable work.

The ablest staff the South can produce has been marshalled for this task. It will cover agricutural and climatic resources, education, finance, fisheries, forests, labor, manufacture, markets, minerals, power, research, transportation, water and specialized human resources (managerial, scientific, economic).

Such other subjects as lead to the translation of human, natural, and manufactured resources into the



A sound social structure requires a sound economy and a sound economy is possible only where scientific use is made of the energies and raw materials of a people.

It is exceedingly vital to us that the South obtain a greater share of the nation's manufacturing economy.

Industry has taken the first magnificent step in making available the techniques and raw materials adequate for the happiness of our people. These are our battalions. The economist can devise the strategy. But an enlightened industry must take command on the line of battle, free to maneuver and make use of every changing phase in a living world.

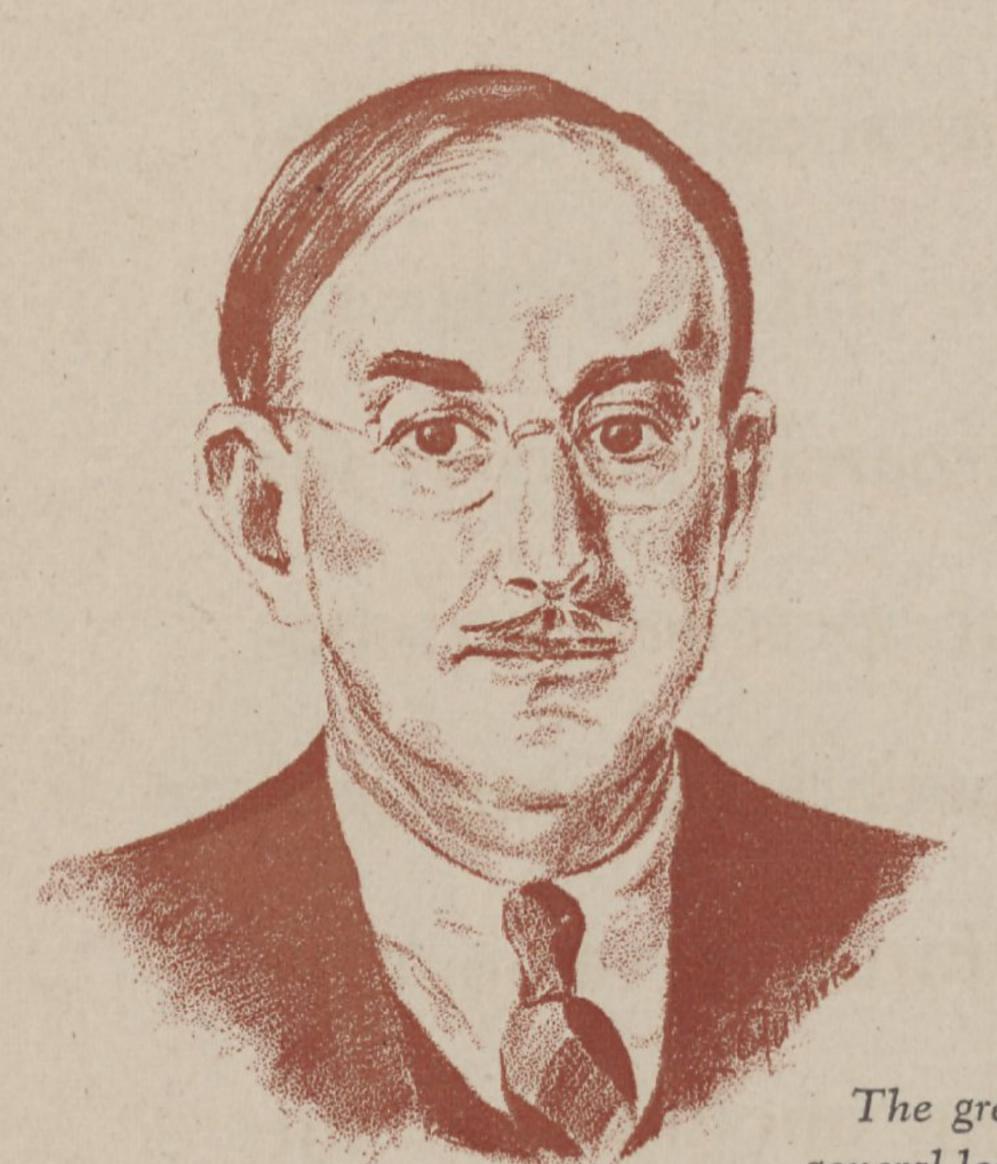
In recognition of these high principles the SASI pledges itself with a lofty sense of duty and a deep devotion to all worthy causes of the South and of the Nation.—MILTON H. FIES, Vice-President, DeBardeleben Coal Corporation, Birmingham, Alabama.

(From an address upon the occasion of his retirement as president of the Southern Association of Science and Industry.)

economic betterment of the region, will be included. This study has been progressing for many months.

SASI has other objectives, but the three enumerated particularly require your financial and moral support, through membership in this Association.

SASI would coordinate all research efforts in the South of the future and foster cooperation between research agencies. It would stimulate new research and do everything possible within the bounds of its program looking to the greater economic development and utilization of Southern resources, people and industry. It would correlate as far as possible the post-war studies and planning being done by the various states and evaluate as far as possible their effect upon the future economy of the South.



The greatest single need of the South, outside its Victory programs and its general leadership and development, is very clearly the application of science to industry, agriculture, and to the development and utilization of its great resources. The ends sought are that the young people may be better trained, that scientific research may be carried on, that this research may be applied to raw materials with a view to greater manufacturing use as well as to industry and agriculture itself, and that there may be forthwith programs which will render greater income to the people, increase employment, increase wealth, and give the South a well balanced economy.

The keynote to the work of the Southern Association is the application of science and research to the problems of industry and regional development. One of the major units of our human resources is found in the number and training of specialists capable of and available for research and in the encouragement of more training and more research emphasis and practice.—HOWARD W. ODUM, University of North Carolina, Chapel Hill, North Carolina.

And it would work toward the end that there be no post-war conversion of defense plants that would tend to an uneconomic concentration and consolidation in one area of the nation at the expense of the others.

It is to the support of this program that we address you. Great things lie ahead for a South dominated and guided by an aroused leadership and keyed to the use of science in its future development.

Your financial support of this program to the extent of your belief in its worth in building the South of tomorrow is herewith solicited. And Southern Association of Science and Industry also seeks your active, personal support as a volunteer to bring about these things we all desire.



To unite the efforts of business men, scientists, educators, and others in improving the economic, physical and social development of the South; to promote regional consciousness and cooperation; to represent and work for the South as a region; to promote wider use of research methods in industries; to encourage a better and more profitable utilization of the vast natural resources of the South; to encourage the development of new products and new processes through the use of industrial research; to provide opportunities for men and women, boys and girls, to the end that they will not have to go elsewhere in order that they may earn a livelihood; to cooperate with and help coordinate the efforts of existing organizations; to cause the South to be informed, articulate and active in the exploration and utilization of its assets, opportunities and common interests; to promote the South's economic progress; to develop and maintain a sense of the importance of the South as an economic area of the United States; to determine what is necessary to develop and maintain the South's existing potentialities that can and will lead to its sound and rapid economic progress; to preserve and protect the resources of the South by conservation; to acquaint the people of the South with the possiblities of the South.-LLOYD C. BIRD, President, Southern Association of Science and Industry.

A Message from the President

Lloyd C. Bird, Richmond, Virginia

FOUNDED in Mobile, Alabama, in the Spring of 1941, this organization is now three years old. It has but one counterpart in the United States so far as I know. That is the New England Council which comprises the New England states. Both of these organizations are products of the times—the need for cooperative effort, for more research, and the application of technology to industrial problems and developments.

The SASI is not a professional society; it is not a business organization; nor is it a chamber of commerce. Quite wisely, our membership is not confined to a specific group of people, and success will depend upon the active participation of all forces, including industry, science, education, political and social.

We cannot conform to any traditional pattern; our activities can be confined to no one field; but we should direct our efforts to a single purpose, i.e., the promotion of the South's economic and social welfare—the development of a strong, progressive, stable system.

On all sides, we hear prophesies that the South is destined to have an era of unprecedented economic progress. Certainly this will not

happen without effort—without leadership. And the leadership for this progress should come from the people living in the South.

Expenditures for industrial research in the United States rose from an inconsequential amount yearly in the period preceding the First World War to an amount estimated at 300 millions of dollars yearly in the pre-Second World War period. If this amount that was spent were pro rated, it would mean that we spent about 6 per cent of the total in the South. This is an area abundant in resources; having, one-third of the minerals of the United States, one-fifth of the bituminous coal, two-thirds of the oil, two-thirds of the natural gas, one-half of the marble, ninety-seven per cent of the phosphates, ninety-nine per cent of the sulphur, forty per cent of the forests, one hundred per cent of the turpentine and resin, much iron ore, and salt which is estimated not in tons but in cubic miles.

I should like to add, an area having more than fifty per cent of the farms in the United States, on which is produced more than ninety per cent of the cotton, one hundred per cent of the cane for sugar, eighty-seven per cent of the rice, one hundred per cent of the peanuts, thirty per cent of the soy beans, sixty-six per cent of the tobacco, forty-eight per cent of the citrus fruits, ninety-four per cent of the sweet potatoes. I repeat, that with all these resources, the estimated amount spent on research at the peak was, in round numbers, six per cent of

the amount spent in the United States. And the South has the lowest per capita income of any section of the country! I believe this to be a case of cause and effect. You cannot reap where you have not sown.

The failure of Southern industry to make full and prompt use of science and technology is said to be one of the chief reasons why it has not been able to compete in the market places, increase profits, and provide high living standards. If we are successful in our efforts to bring industry and science together and do not include the political, social, health, educational, and financial forces, we may still fail.

If the vast resources of the South are to be developed along lines that will bring the greatest benefit to the greatest number of people, Southern capital will have to be made available in greater amounts.

God grant that science and industry, linked together in a common cause, can and will, with the cooperation of other forces, make Jefferson's assertion that "the mass of mankind was not born with saddles on their backs" a living truth. In its broader conception, have we not set ourselves to that task? Could there be a more appropriate time than this when the fundamental principles for which Jefferson stood are being attacked, not only in our own country, but all over the world; could there be a more appropriate place than the Southern states represented in this association where Jefferson lived and where men and women still actually believe in his principles of democracy?

Officers

The Southern Association of Science and Industry

LLOYD C. BIRD, President
PRESIDENT, PHIPPS & BIRD, INC.
303 South Sixth Street, Richmond, Virginia

THOMAS W. MARTIN, Vice-President PRESIDENT, ALABAMA POWER CO. CHAIRMAN, SOUTHERN RESEARCH INSTITUTE Birmingham, Alabama

J. E. MILLS, President-Elect CHEMIST, SOCONO PRODUCTS COMPANY Hartsville, South Carolina GEORGE D. PALMER, Secretary PROFESSOR, ORGANIC CHEMISTRY, UNIVERSITY OF ALABAMA
University, Alabama

L. B. ROBERTS, Treasurer
ARKANSAS A. AND M. COLLEGE
Monticello, Arkansas

PAST PRESIDENTS

GEORGE D. PALMER, Professor, Organic Chemistry, University of Alabama, Alabama GEORGE H. BOYD, Dean, Graduate School, University of Georgia, Athens, Georgia W. F. RUDD, Dean, School of Pharmacy, Medical College of Virginia, Richmond, Virginia MILTON H. FIES, Consulting Engineer, 611-612 First National Building, Birmingham, Ala.

ALSO MEMBERS OF EXECUTIVE COMMITTEE

MEMBERS OF THE EXECUTIVE COMMITTIEE

LLOYD C. BIRD, Chairman

President, Phipps & Bird, Inc., 303 S. Sixth Street Richmond, Virginia.

Z. P. METCALF

Head, Department of Zoology and Associate Dean of the Graduate School, North Carolina State College Raleigh, North Carolina.

MARCELLUS H. STOW

Deputy Director, Mining Division, War Production Board, Washington, D. C.

R. S. HENRY

Assistant to President, American Railroad Association, Transportation Building, Washington, D. C.

CHARLES O. HOOVER

Petroleum Refinery Specialist, Air Reduction Corporation, 7517 South Main Boulevard, Houston, Texas.

HOMER M. PACE

Vice President, South Carolina Power Company, One-Forty-One Meeting Street, Charleston, South Carolina.

W. F. HAND

Head, Department of Chemistry. Mississippi State College and State Chemist, State College, Mississippi.

I. A. WILLS

Dean, Academic College, John Brown University, Siloam Springs, Arkansas.

E. EMMET REID

Professor Emeritus, Johns Hopkins University, 203 E. 33rd Street, Baltimore 18, Maryland.

D. J. WEDDELL.

Dean, School of Forestry, University of Georgia, Athens, Georgia.

STEWART J. LLOYD

Dean, School of Chemistry, Metallurgy, Ceramics, Assistant State Geologist, University of Alabama, University, Alabama.

CHARLES NELSON

President, Nashville Trust Company, Nashville, Tennessee.

H. E. BULLOCK

President, Kentucky Block Coal Company, Union Station Building, Lexington, Kentucky.

CAYE A. NELSON

Exec. Dir., Economic Development Committee of Louisiana, 2301 State Capitol Building, Baton Rouge 4, Louisiana.

ROBERT B. CAMPBELL

Consulting Geologist, Hammock, Florida.

