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The Solid (Ivory) South

As we approach the end of this year, characterized by a Yuletide "season" that has grown interminable and exhausting, we come to the year of the Centennial of the Civil War—the event which solidified a regional consciousness that had been growing and deepening since the middle of the 18th Century. One hundred years ago this month, December, South Carolina seceded from the union of states on the election of the first Republican Party president to be sent to Washington. One hundred years later, lacking one month, South Carolina, along with the other Southern states which formed the original Confederacy, was still seceding over that political party—no longer from the union of states but from the realm of reason.

In 1860, despite the impetuosity of the act of secession ("the passions of that mad hour," as one eminent South Carolinian then called the time), there was considerable justification in the act. Considering that the act was motivated by understandable emotion, rather than by long-range wisdom, the hodge-podge of "outs" who formed the Republican Party on a highly partisan sectional basis certainly showed themselves sufficiently antagonistic to the South's interests and institutions to arouse a distrust of them in a common union. As of 1960, when the political parties bear no more resemblance to those of the past century than that lost era bears to modern America, there can not possibly be any emotional basis to justify a vote against the party which bears the name of an alignment formed under different conditions and for different purposes.

It is true, of course, that the party bearing the name Republican was in power during the decades of the South's debasement following the Civil War, and that part of its program for remaining in power was the continuance of the South's political and economic weakness. More to the point, however, is the fact that the Democratic Party currently in power, as aligned today and under today's conditions, is making legislation wherever possible in knowledgeable, cynical disregard of the South's interests and institutions, and this party is supposedly the party of the South.

Whenever this legislation is blocked, it is only by a coalition of Southerners and Republicans. For more than a decade, such resistance as the South has been able to make against the political aggression of the party of its loyalty has been achieved only by this collaboration with the party bearing the name of ancient oppressors. But, when the old Republican Party was in power in the 19th Century it was at least an honest, forthright enemy; it contained no Judas element.

Furthermore, in its most avowedly partisan days, its alignments never approached the Democratic Party in its irresponsible appeal to diverse minorities as a means of obtaining a voting majority.

Practically every minority element in the country is included in that mélange except the white Protestant Southerner. So the white Protestant Southerner throws his voting weight behind this lunatic admixture of groups (two of which, Labor and the Negro, are struggling determinedly to overthrow his institutions) and tips the national balance to make possible the election of the president of this anti-Southern hodge-podge.

Where a century ago the Southern states renounced the union because of the election of a president of a party antagonistic to their
Electric power came to Virginia as the servant of a now-dead master.

The industry had its real beginnings here in 1888 when, at 6 o'clock one January morning, an electric trolley crept out of a barn in Richmond's historic Church Hill section on the debutante run of the first successful electric streetcar line in the country.

Such surplus power as that Union Passenger Railway Co. and the others which followed it late in the 19th Century had was sold for electric lighting. Gradually, small scattered companies across the state consolidated, their networks of lines spun out and met as long-distance transmission became practicable, and resulting economies made electricity competitive with other fuels.

Industry succeeded trolleys as the master of this ubiquitous servant.

* * *

Union Passenger in Richmond, Norfolk Railway & Electric Power Co., the City of Portsmouth Street Railway & Electric Power Co.—these were among...
the forerunners of the Virginia Electric & Power Co., now the giant of the field in Virginia.

Vepco traces its lineage directly from Frank Jay Gould's Virginia Railway & Power Co., organized in 1909 from small struggling companies and bits and pieces of others. Twenty years later, by then under its present name, Vepco had acquired its 100,000th customer and operated 18 power stations.

Today, electricity from 21 stations with a combined capability of 2,086,000 kilowatts, serves more than three-quarters of a million customers in Virginia, northeastern North Carolina and a corner of West Virginia—an area that runs from the Pamlico to the Potomac and from the Atlantic to the Alleghenies, all intertwined with more than 31,000 miles of Vepco lines.

The company’s steam generating stations are in Richmond, Chesterfield County, Portsmouth, Bremo Bluff, Possum Point and Yorktown. Across the state line in North Carolina stands the Roanoke Rapids Dam, a 100,000-kilowatt hydroelectric plant, completed in 1955. Eleven other hydro plants are scattered throughout Virginia.

Last year, a 53-million-dollar construction budget began three major additions to Vepco’s generating capability. New 170,000-kilowatt additions to the Portsmouth and Chesterfield stations have been completed; a 200,000-kilowatt unit is to be added at Possum Point, near Quantico, and another 200,000-kilowatt unit to be added at Portsmouth. Both are scheduled for completion in 1962.

The five-year-old Roanoke Rapids Dam, largest hydro plant in the Vepco system, soon will be dwarfed by an upstream neighbor. Work began this fall on a 50-million-dollar installation at Gaston, N. C., also on the Roanoke River. This three-year construction project will result in a 3,600-foot dam and a 200,000-kilowatt hydro station, which will boost the company’s generating capability well above the 2½ million-kilowatt mark. That will be more than three times its maximum power generation of 10 years ago.

This additional three-quarters-of-a-million-kilowatt generation recently added or now under construction looks to the 1960’s. A small brother to these plants, a 17,000-kilowatt installation, may be looking beyond. That is the Carolinas Virginia Nuclear Power Associates atomic power plant, being built at Parr, S. C., and due for completion in about 18 months. Participating companies are Vepco, Carolina Power & Light Co., Duke Power Co. and South Carolina

(Continued on next page)
Electric & Gas Co. It is Vepeco's first venture into the field of nuclear power and is one of 26 such co-operative projects involving 132 electric companies now under way across the country.

Westward from Lynchburg and into West Virginia stretch the poles and lines of the Appalachian Power Co., one of six member companies of the American Electric Power System, a vast seven-state network with a power generating capability of more than four million kilowatts.

Appalachian itself, producing power primarily in coal-fed steam generating plants in the heart of the Virginia-West Virginia coal fields, serves more than 200,000 customers in 30 western Virginia counties and another quarter of a million in 21 counties of West Virginia.

It operates hydroelectric stations on the James, Roanoke, South Mayo, Pigg, New and Holston rivers. Another huge hydroelectric development at Smith Mountain Gap on the Roanoke River is nearing the stage of cofferdam construction. This will divert the flow of water so that concrete can be poured for the two major dams. The upper dam, at the gap, and the Leesville dam, 18 miles downstream, will have a combined capacity of 440,000 kilowatts.

Completion in 1962 is expected. Also under way is an additional unit for the 450,000-kilowatt steam generating plant on the Clinch River, near Carbo. The installation opened two years ago. The new facility, due for completion late next year, will boost Clinch River's capability to 675,000 kilowatts, making it Virginia's largest power-generating station.

The company also operates a steam-generating plant at Glen Lyn, almost on the Virginia-West Virginia state line near Bluefield.

Two subsidiaries of the Allegheny Power System, Inc.—the West Penn Electric System until stockholders approved a change in the name on November 9—serve the northern and northwestern corners of Virginia.

The Northern Virginia Power Co., a subsidiary of the Potomac Edison System, operates in the area north from Charlottesville and west from Warrenton to the Maryland and West Virginia state lines. Its principal power generating facility is the Riverston plant near Front Royal.

Another part of the Allegheny System, the Monogahela Power Co., is primarily a West Virginia concern but serves Highland County, Va., through a wholly-owned subsidiary, Monterey Utilities Corp.

Other privately owned electric companies providing power for parts of the state are the Eastern Shore Public Service Co. of Virginia, a subsidiary of Delaware Power & Light Co., serving the Eastern Shore; the Old Dominion Power Co., a subsidiary of the Kentucky Utilities Co., serving three of the westernmost counties of Virginia, and the Potomac Electric Power Co., operating in part of Arlington County.

In addition, 25 communities in the state are served by municipal or governmental power suppliers, and Rural Electrification Administration co-operatives provide power in 16 small, largely rural areas.

(Continued on page 19)
Why Do We Celebrate the Birth of Jesus on December 25?

by G. Watson James, Jr.

Why was December 25th selected to celebrate the birth of Jesus, especially as there is no definite record of the actual day in the year of His Nativity? Ask this question of a few of your friends, reader, and we dare say they will not know the answer.

We didn’t know. But in a chance conversation with a well-posted Bible student we were given a “lead” on the question. This led to some fascinating research.

To begin with, Christmas is derived from the medieval Christes Masse or Mass of Christ. According to many authorities it was not celebrated by the Christian Church in the first centuries, as the Christian usage in general was to celebrate the death of a remarkable person rather than his birth.

In the fifth century, however, the Western Church designated that forever Christ’s birth should be celebrated on the day of the old Roman feast on the birthday of Sol, as no certain knowledge of the day of Jesus’ birth existed.

Eminent churchmen hold that the decision to commemorate the Nativity of our Saviour coincident with the pagan Saturnalian festival was to counter the wild orgies of that pagan celebration with the sublime story of the manger.

The Saturnalia, incidentally, was dedicated to Saturnus* or Saelurnus, a Roman god of sowing or seed corn (satus). Originally it was held only on December 19th but was gradually extended seven days. The conjecture is that it was connected with the Winter sowing. In modern Italy this lasts in various sections from October to January.

At all events, the pagan Saturnalia festival must have been lively and popular. All business, public and private, was at a standstill; school closed, and execution and military operation suspended. Slaves were temporarily free, eating with and even waited on by their masters. They could say what they chose. Gambling with dice, generally forbidden, was allowed. All participants were greeted with io Saturnalia; and presents freely exchanged—the traditional ones being wax candles and little clay dolls.

Further comparison of the ancient customs during the Saturnalia with those of the modern Christian celebration of Christ’s birth points to the conclusion that the early disciples of Christianity selected December 25, not only to offset the pagan’s wild worship of a false god, but at the same time to adopt in a Christian spirit some of their customs such as perhaps the exchange of dolls and the use of wax candles.

Attempting a further analogy between some of the pagan festival customs and those prevalent with the Christian celebration for many years in the past and that obtained today we find: (1) schools are closed and all business public and private is at a standstill. There are no executions set for Christmas Day or the weeks following.

While there are no slaves today in the true meaning of the word—we feed the “slaves of adversity”—often inviting and waiting on many of these unfortunate in public and private dinners. Many minor offenders have their fines remitted and are oftimes set free, and pardons are issued by many chief executives of our states.

And, instead of the pagan salutation of “io Saturnalia” we greet each other with “Merry Christmas.”

As a corollary to the above analogy of the pagan vs. Christian celebrations, history reveals that “The Lord of Misrule” who long presided over the Christmas games of Christian England was apparently the direct descendant of the ruler who was appointed with considerable prerogatives to preside over the Saturnalia.

Commenting on this we find that a narrow Puritan author of the Histrio Maitix lamented: “If we compare our Bacchanalian Christmases with the Saturnalia we shall find such a near affinity between them, both in regard to time and in manner of solemnizing that we must needs conclude the one to be but the very issue of the other.”

True today as it was when that straight-laced Puritan wrote the above opinion.

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to tell the Virginia Story December 1960 Page Seven
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Wise Contracting Co., Inc.
Completes Two Richmond Projects

• Outstanding team work between the owner, general contractor, architects, engineers and public officials enabled Wise Contracting Co., Inc. to coordinate construction operations and place the owner in occupancy in two months and 11 days after starting the Miracle Mart Shopping Center on Staples Mill Road, Richmond.

The project was built on a 10.3 acre site and contains approximately 102,000 square feet of space costing in excess of $1,000,000. Colonial Stores will have its largest Richmond store in this development.

The structure is of steel frame, masonry walls, gypsum roof and is completely air conditioned. The parking areas provide space for more than 1,000 cars.


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Circulation required by the Act of Congress of
August 24, 1912, as amended by the Acts of March
3, 1933, and July 2, 1940, and June 21, 1960 (43
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3. The known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: None.
(Signed) S. L. Goodman, Owner.
Sworn to and subscribed before me this 30th day of September, 1960.
Ethel W. Ryerson, Notary Public. (My commission expires November 25, 1960.)

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Our 1960 Madonna features simplicity and strong lines, created by the cathedral effect of a palm spathe, white and lined with light blue and the slivered magnolia leaves. The Hummel figure is softened slightly with the two white rose buds and bit of green at her feet. Octagonal wooden bases in graduated sizes provide a dignified platform for the figure and a blue taffeta background injected the color. Mrs. W. A. Burbage of the Beverly Hills Garden Club in Richmond entered this arrangement in the 1959 Holiday Flower Show sponsored by the Richmond Council of Garden Clubs.

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Our Garden Gossip Section will be presented next in our March issue with interesting and complete coverage of the gardens to visit during Historic Garden Week as well as spring gardening information. Thereafter, please look for Garden Gossip in the June issue, with summer gardening news; in the September issue, with autumn garden hints, and in December, with an even better Christmas section—all devoted to Virginia gardeners and their interests. We believe this schedule will increase your enjoyment of Virginia Record.
Christmas Arrangements

Indian maize, popcorn, small gourds, corn tassel and husks, sunflower heads and broom corn make up this swag which was attached to a rice basket. The small Madonna which it haloes has a touch of brown in the finish. A family treasure of a carved wooden figure could be substituted, and any woven mat or shallow basket could become the foundation for a swag of this type.

Cones can be so effective when grouped for a center of interest on a boxwood wreath. A grouping of three wreaths shown becomes a unit through the boxwood roping and any color harmony could come alive through painting the cones for accent.

Scotch pine, euonymus fortunei radiantes, dried leaves from the rubber plant and cones touched with a bit of gold paint curve around a green candle. The container which is gold too is a hubcap placed on an inverted metal bowl. Why not try a different color harmony, keyed to candle color—so much is possible with spray paint today.

A beautiful fresh centerpiece for the holiday table can be started with a simple bowl, a block of oasis and the candles placed first in irregular heights. Poke the stems of fresh roses, tuberoses and holly into the moistened oasis, filling in the gaps with pampas grass for a festive contrasting effect.
CHRISTMAS MUSINGS

CHRISTMAS becomes a tradition in each home directly in proportion to the traditions homemakers, gardeners and families make—and the more we do for ourselves together, the more the special holiday season means. We Virginians thrive on tradition; we love the best of the past and cherish it with each passing season, adding a little each year that is new.

EVERGREENS means Christmas decorations, from the traditional cedar tree and boughs, to the magnificent greens available to homeowners today. All of the needled evergreens lend themselves to interior decorations with the exception of the hemlock, which drops so badly. The greens will last even better in the house if they are conditioned before use in water to which one tablespoon glycerin has been added. In using greens out of water, it might be possible to press the stem into a grape for added moisture and longer life, or try a small potato, if space permits. Artificial snow and glitter suggests the wintry aspects of Christmas; the mica snow lasts and sparkles so much more realistically than the silvery or golden glitters and doesn't tarnish. Broad-leaved evergreens grow in such profusion in Virginia gardens—why not use all the hollies from your garden, not just the ilex opaca or American holly? The ilex cornuta Burfordi has a leaf that is shiny and deep green, wonderful for a textural change when used with needled evergreens. The English hollies are more like the ideal holly form, are deeper green and beautifully berried. But if you use the traditional ilex opaca, remember to secure it where holly is plentiful for it is protected by the conservation list of the garden clubs. Nandina and pyracantha can add the necessary color to the holly if it is short on berries. A colorless spray helps to preserve the leaves and berries as well as adding needed sheen.

WHAT is nicer at Christmas than a fresh potted plant? If Santa brings you one, be sure to cater to its special requirements of moisture and heat for most of our homes are too dry and too hot for continued success, especially after the greenhouse atmosphere. Adding a few greens to a potted plant puts the unusual touch to an ordinary pot.

WRAPPING gifts calls for ingenuity but surely those from a gardener and flower arranger ought to have a little special touch. How about a tiny boxwood wreath, based on a can rubber; or a design of dried cones on a plain, glazed paper; or a tiny cone and nut corsage for the recipient to wear after Christmas? Here is where the dried materials you gathered last summer can help and, with a little paint, the simplest gift becomes glamorous in the unusual wrapping.

THE AIR OF CHRISTMAS, its special smells, its bustle and glitter, the outpouring of love in honor of the First Christmas becomes a time of the year to cherish and enjoy when you make it something for your family and friends to remember.

Garden Gossip Section

Angels cut from gold-lined tin cans have been mounted on a panel of glass cloth, sprayed with gold. Two or three gilded magnolia leaves peek from the turquoise angel hair which gives a cloud-like effect—a novel panel for a door decoration.

Grace Baker Ray graciously permitted the use of the above photo and others indicated from her DECO RATIONS FOR CHRISTMAS, a clever booklet worth having, available from her at 738 Sheridan Drive, Lancaster, Ohio.

The salute to the New Year in a modern manner features a chicken-wire bell, decorated with tiny Christmas balls, set in a line pattern created by dried aspidistra leaves. A rock on an egg-shelled piece of plywood forms the container base. Mrs. Alfred Benson used silver paint for her color scheme, with bright blue balls.

Photo by Colonial Studio
In the ninth century, the good Saint Winifred traveled about Northern Germany, preaching Christianity. One Christmas Eve, he came upon a group of people gathered around a huge oak tree to offer human sacrifice to their pagan gods. According to legend, Saint Winifred hewed down the great oak, and as it fell, a tall young fir appeared in its place. The appearance of the tree was hailed far and wide as a miracle, and from that day on, it became the custom for German families to gather about a tall evergreen on Christmas Eve.

Some historians trace the origin of lighting the Christmas tree to Martin Luther, who lived from 1483 to 1546. It is said he was strolling through the countryside one Christmas Eve, awed by the beauty of the evergreen forest under the starry sky. When he came home, he tried to re-create the scene for his family by attaching some lighted candles to a small evergreen.

Hessian soldiers brought the first Christmas tree to America. But the custom of lighting trees in public places originated here. Today, the United States has a national Christmas Tree, designed by the Department of the Interior. It is 267 feet high and is located in General Grant National Park near Fresno, California.

This season, two-thirds of the homes across the nation will be glowing with the warm lights of the Christmas tree. But something new will be added. Buffet tables and mantel pieces will sport their own tiny version of nature's own evergreen.

Fresh red Christmas roses, tied with red velvet or satin bows on a pink plastic tree leave no doubt the holiday is here—or use plastic roses in any desired color combination. The snowy toothpick tree comes from round toothpicks inserted in one inch styrofoam balls pin cushion fashion and arranging several toothpick balls in a circle to form the base, then add five balls, then three, each in a circle, topped with just one. Spraying with snow and decorating with miniature ornaments finishes the tree.

Graduated strips of paper about one inch wide, colored or patterned, with hole punched in each end makes the tree shown below (left). Other trees shown are made from heavy paper and imagination.
THE GIRL SCOUT ROSE

As Girl Scouts of the U.S.A. began this fall the three year celebration of their Birthday years the event was marked by the debut of a yellow floribunda rose named in their honor.

A 225 plant Girl Scout rose garden has been presented to the City of St. Louis during the November convention there of the nationwide councils of the Girl Scouts of the U.S.A.

During 1961 when local councils will be urged to plant golden flowers for the anniversary years, Girl Scout bushes will be restricted to official members of the national organization. Approximately 25,000 rose bushes will be available to the girls for spring planting.

Easy to grow and care for, Girl Scout produces flowers profusely. It will develop even more flowering shoots if stems are cut for indoor use. True to the floribunda habit, it develops both single stem flowers and clusters of three or more. Individual flowers are 3 to 3 1/2 inches in diameter and are well petalled. Their deep golden yellow color remains constant throughout the life of each bloom. And the buds are perfect gems in their slender ovoid form.

The bush is compact and full. It attains an average height of 2 feet and does not grow out of bounds. Foliage is glossy green and provides an ideal background for the golden yellow buds and flowers.

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VIRGINIA RECORD DECEMBER 1960 PAGE SEVENTEEN
CLOSED CIRCUIT TELEVISION, sound-proofed meeting rooms and a message-at-desk system exclusive in Richmond are some of the features that make The Executive Motor Hotel unique in this area.

The 140-unit, multimillion dollar motor hotel is located at Broad Street and Byrd Avenues in Richmond's fast growing West End.

The Executive combines strategic location and the latest convention and meeting facilities with a luxurious, resort-type atmosphere.

Designed by Norman M. Giller, Miami Beach architect, the contemporary building features a 4-story “S” curved tower faced in imported Italian mosaic tile and a 2-story, glass walled lobby.

The Executive will provide fully equipped, specially designed meeting and banquet rooms for conventions, sales meetings and other group uses. Also located on premises will be a fine dining room, health club and private club.

The beautifully landscaped grounds include special plantings, waterfalls and reflecting pools and a lighted swimming pool surrounded by a sun deck area.

Guest rooms will be equipped with radio, TV, individually controlled heating, air conditioning and music systems and direct dialing telephones for local and long distance calls as well as for in-hotel services. The exclusive message-at-desk system utilizes an enunciator panel switch, which lights a button on the guest’s bedside panel to inform him of a message at the desk.

Henry F. Stern, of Richmond, is president of The Executive and Joseph M. Mizelle is managing director. Stern is also president of The Cavalier Manor Motel, Inc., a 40-unit motel on U. S. #1 north of Richmond. Mizelle, who served as managing director of The Cavalier, will continue to manage this motel as well as The Executive Motor Hotel.

Three exciting new decorative wall surfacing techniques have been developed around the well known portland cement finish, “Cement Enamel”. As announced by Cement Enamel Development, Inc., of Detroit, which has been pioneering in the development of cold glazed wall finishes for 25 years, the new finishes are “Scraffito Murals,” “Coraltex,” and “Textured Hand Work”.

The new finishes are available in the same broad palette of colors as is the basic portland cement cold glazed finish. Known in this country for several years and used on many building projects in Virginia, Cement Enamel has a much longer history of use in the western European countries.

With the announcement of the new techniques available, Cement Enamel Development, Inc., has announced an expansion of its activities in the state of Virginia. Zirkle & Zirkle, 111 W. Market St., Harrisonburg, is the Virginia representative for the product, which, since its introduction into the

Cement Enamel surfacings are composed of portland cement, mineral oxide colors, and other chemicals applied in a coating approximately one sixteenth inch thick. The coating is non-toxic and non-inflammable and has all of the properties of dense concrete combined with exceptional decorative value and durability. Cement Enamel vitreous sur-
facing gives an absolute bond to all masonry backings, including block, concrete and plaster. A wide color range is available and glare is eliminated by the multi-color finish.

The three new surfacing techniques are described by the manufacturer as: "Scraffito Murals!" — the traditional process of cutting murals into wet plaster goes back many centuries. Cement Enamel has adapted this process so as to be able to accurately reproduce any architectural sketch by cutting it into wet "Cement Enamel". The result is a unique three dimensional, multi colored mural effect.

"Coraltex" — is a highly textured application of Cement Enamel, producing a pebble-textured surface which allows the wall to "breathe". The finish is water resistant.

"Textured Hand Work" — a process similar to plaster texture techniques, provides richly colored patterns for special applications such as theatre lobbies and other areas where these effects are desired.

WATTS, WATERS AND WASTES (Continued from page 6)

Private utility companies, municipalities and the R.E.A.-financed cooperatives are not the only suppliers of power in the state. A large generating capacity is the by-product of two huge federal flood-control projects, built by the U.S. Army Corps of Engineers.

Power from the John H. Kerr Dam on the Roanoke River and from the Philpott Dam on the Smith River serves U.S. Government military installations and is purchased also by private utility companies for their own customers under an arrangement with the federal Southeastern Power Administration.

With the new facilities that are already in operation, omitting for the moment those under construction, the generating capabilities of electric companies in Virginia are more than double what they were at the end of the Second World War.

Sales of power now total about 10 billion kilowatts annually, with nearly a third of that going to keep Virginia industry producing. It was this industrial development that created much of the demand that has led to expansion programs of the private electric producers — programs that include the 50-plus-million-dollar construction budgets of Vepco and Appalachian.

There is another side to that coin. Forty-seven new manufacturing plants located or announced plans to locate in Virginia during the first nine months of this year, and 46 others already here announced plans to expand. Clearly, availability of adequate power resources was a major factor of each of these decisions.

The electric trolley has run a long course since it left that Church Hill barn almost 73 years ago.

As electricity is the driving force behind Virginia's industry, so water is the sine qua non of the hydroelectric and steam generating plants that produce that electricity.

Virginia's excellent natural endowment of water resources and recent programs to channel and harness water and maintain its quality all are vital to the state's industries.

But important as the water resources are, relatively little is known about them. Although estimates of the surface water supply available are generally consistent, surface water is insufficient in many areas and is only an infinitesimal part of the state's total water resource.

Studies of the ground water supply, complicated by Virginia's widely disparate physiographic make-up, have provided only varied estimates of its quantity and availability. Federal, state and local authorities today are sounding the geologic underpinnings of Virginia for some answers. These studies have grown from recognition only in recent years of the importance of these subterranean resources to a population that is vastly multiplying its demands for water as it becomes larger, more urbanized and more industrial.

As recently as 1952, a state-appointed Water Resources Committee concluded that "now is not too soon to attempt to profit from the difficulties and misfortunes suffered by other states in the overproduction, misuse, waste and depletion of valuable ground water resources."

Three years later, the Virginia Advisory Legislative Council submitted to Governor Stanley an expansive report that was necessarily "based on data which is admittedly incomplete."

It estimated the use of water by manufacturing in the state was then 595 million gallons per day and noted that "the use of water by electric utilities in steam-generation in Virginia is now over a billion and a half gallons per day and will probably increase at a rate of 110 million gallons per day each year."

The council added, however, that "there is no data for comparison to show how this has grown over a period of years."

Two points are significant:

First, that such a rate of growth was anticipated in the use of a resource about which so little data was—and is—available.

And secondly, that "industries and utilities use water but do not consume much of it; they return the water to the streams substantially undiminished in quantity and quality."

The State Soil Conservation Committee has estimated that less than one per cent of the water required by industry actually is consumed.

So although industry does not use up these great quantities, they must be available for its use. Millions of gallons per day is not an unusual requirement for a single industrial location.

What supply, then, is available to industry? On the basis of average annual flow, the state's streams make available "the astonishing total of about 28 billion gallons per day," according to a survey completed last month by the Bureau of Public Administration of the University of Virginia. That's water on top of the ground.

Below the surface, it estimated, are stored more than 60 trillion gallons of ground water.

Neither source, of course, is necessarily available where it's wanted in the quantities needed. Surface water supplies are erratic in the Coastal Plain, where industrial and irrigational requirements of ground water are steadily increasing; ground water resources cannot support heavy industry in the Piedmont; dropping water tables periodically trouble the Cumberland Plateau.

The quantities involved today for municipal, industrial and rural needs—exclusive of power generation which is almost wholly nonconsumptive—is something more than 700 billion gallons a year, or some two billion gallons per day, the university report estimates.

This seems, in an apt old phrase, merely a drop in the bucket when considered in terms of the estimated supply. The totals indicate industry in the state is using less than 10 per cent of the normally available water supply. Further, except for irrigation, most users are largely nonconsumptive.

Virginia's water supplies appear, therefore, adequate for centuries to come.

In general, this is true.

In the specific, industries considering possible plant locations in Virginia weigh also their requirements that adequate water supplies be available at all times, where needed, and be of usable quality.
The first is a matter of distribution, critical in areas like the James River basin, where 64 per cent of the water required by Virginia manufacturing is used, and in areas where surface water supplies are unreliable because of seasonal fluctuations in the flow of streams. Dams play a dual role here, restricting flood damage downstream in times of heavy rainfall and storing water behind them for times of drought.

The question of quality is a subject in itself.

A fair-sized portion of the enormous water needs of Virginia's industries is demanded for compliance with the state's water pollution control law.

Locations available for industrial development are limited by the need for a stream flow several times the volume of waste discharged, even in the driest seasons, in order to avoid pollution.

Requirements in this area date from the General Assembly's enactment in 1946 of a law stating:

"The discharge by any owner not having a certificate issued by the Water Control Board of sewage, industrial wastes, or any noxious or deleterious substances into state waters, which is detrimental to the public health, or to animal or aquatic life, or to the uses of such water for domestic or industrial consumption or for recreation, is hereby declared to be against public policy."

The law's basic objectives were and are: (1) to safeguard the clean waters of the state from pollution; (2) to reduce existing pollution, and (3) to prevent any increase in pollution.

Much misunderstanding has resulted from the word itself. Pollution is a relative term. A stream is polluted, or not, only in terms of the use to which its waters are put. Water that will float a boat is not necessarily fit to drink.

Similarly, the quality requirements of industry vary widely as to physical and chemical characteristics.

It's all a matter of deciding how much of what substance is "too much" at a given time in a particular place.

Until 1946, the standards and restrictions that existed in this field were buried deep in piecemeal legislative acts. Since then, they have been the province of the State Water Control Board.

This board has followed, the Committee on Water Resources found, "a course of requiring, for the present, that only as much waste be kept out of State waters as will prevent them from being polluted, and with some reserve capacity, under existing conditions. In many cases, this may be done with a minimum degree of treatment. . . . The Board may later have to ask for a higher degree of treatment."

Because of the wide range of quality requirements among water users, the board has weighed each case of pollution as an individual problem. No specific criteria have been set. Each case is considered in terms of the recognized and potential uses of the particular body of water.

Considerable leeway has been granted in municipal and industrial waste situations that already existed when the board was created. Strict adherence, however, has been demanded of industries new to the state since then.

The board's files contain records on 725 sewage discharges in the state, 630 of them treated. Some 490 sewage treatment plants have been constructed or expanded in the last 14 years. Only 140 existed in 1946. And more than 50 sewerage improvement projects have been completed in the last two years.

Of something more than 475 industrial waste discharges on which the board has records, 400 existed 14 years ago. More than half of these have taken action to control polluting discharges.

Also since 1946, 95 new industrial waste discharges have been authorized by the board, denoting that proper treatment facilities were being installed. Three-quarters of these were new plants, the rest improvements of plants existing when the board began operation.

Generally, the Committee on Water Resources found, "the co-operation of industry with the board's program has been good." In its first six years of existence, the board had to issue only four formal clean-up orders—three to municipalities and one to an industry.

Problems, of course, continue.

Wastes that do not pollute a stream for one purpose may make it unfit for others.

Some 110 "significant" discharges of untreated or inadequately treated sewage remain in the state.

Many industries already in operation in 1946 either have not undertaken or have not completed installation of waste treatment facilities. For some, the nature of their processes makes this impossible until further technological knowledge is gained in this field.

What's ahead?

The key to the future in each of the fields considered—electric power, water resources and community and industrial waste disposal—is a decision but inexact "more."

More people. Virginia's population is expected to reach 4,885,000 persons by 1980.

More urbanization. If not the cities proper, at least the metropolitan areas of the state are growing.

More industry. At the heart of all the plans of the state government and the private electric companies is a confident expectation that more and more companies will locate and expand in Virginia.

More modernization. Electric appliances in homes, electric equipment on farms, air conditioning of house and industry, all are increasingly common.

These four factors combine to make new claims for more water—water for people, for air conditioners, for live stock, for irrigation, for industry. And of course, more water for the electric generating plants to serve all of them.

Further, all of these will create more wastes to be disposed of if the state's streams are to remain unpolluted.

One shift already has changed the pattern of electric production markedly and is an important factor in future planning. On a graph of hour-by-hour daily usage, the "peaks" are lower, the "valleys" are higher. Many electric appliances run continually, know no day or night. Many industries operate shifts through the night.

Steam-generated power, available in a consistent amount, must be sufficient for the base load. Hydroelectric power, with fluctuating volume, still can serve the now-less-pronounced "peaks."

That is the pattern for the '60's. Beyond that, atomic and perhaps hydrogen and solar energy may play their parts, the later two utilizing inexhaustible fuel supplies.

Estimates for the future indicate nuclear plants in the United States will be generating approximately eight million kilowatts in another decade and some 39 millions by 1980, according to the Edison Electric Institute. It figures on an output 20 years from now of 417 millions by steam plants and 25 millions by hydro plants.

That total of 481 million kilowatts for 1980 compares with 127 millions of generating capability in the country today.

At this point, water resources become a vital consideration. One 60,000 kilowatt steam-electric generating station requires about 65 million gallons of condensing water daily. That's about twice the average daily consumption of the city of Richmond.

Further, certain types of industry have greater water requirements than others—and among them are the chemical, paper and textile industries which are major components of Virginia's economy.

As noted earlier, Virginia is well endowed with water resources. "No
laws or policies of man will increase the total amount of water nor will they change the placement of it,” the V.A.L.C. observed in its report on this resource in 1953.

But, it said, “the distribution of water in both time and geographical location leaves much to be desired.” Impoundment and diversion it saw as the answers.

“Sooner or later,” the University of Virginia report this fall summed up, “active steps must be taken to prevent excessive withdrawals of ground water in the more actively growing industrial areas.”

Decisions in this field depend on more exact knowledge than is now available about the state’s water resources.

With more information will come the inevitable differences as to what remedies are needed. Water resources have varied uses. Co-ordination between interests will become necessary. What is most economic for industry may not be best for downstream recreational areas. On the other hand, a dam that can afford flood control may also generate electric power.

“Virginia must develop,” the State Soil Conservation Committee said in a report last year, “a co-ordinated, long-range investigation of its ground water resources.”

“With the tremendous growth of metropolitan areas and the integration of previously incorporated or unincorporated communities into a population and industrial concentration, water supply and sanitation can be developed and handled satisfactorily only through co-operation of the various communities.

Water districts, commissions or authorities may provide an answer to financing and construction of water systems to meet the needs of our citizens and for the continued healthy growth of the State. In any event, co-operative long-range planning is essential. . . . 

“Without a systematic inventory of these resources, trends in water use will go undetected and problems will become more difficult to solve.”

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One problem that was difficult to solve even before it was tackled was that of water pollution.

Progress has been significant since the Water Control Board was set up in 1946. Abatement of pollution that existed when the board was established has continued apace; it is to certain problems which have developed since then and to new ones which are coming that the board must address its principal efforts.

Sheer volume is a vital one that will result from increased population and a growing number of industries. “The inevitable result,” A. H. Paessler, executive secretary of the Water Control Board, says, is that the “degrees of treatment of wastes required will have to be jacked up.” In some areas, he adds, “some types of industry may be prohibited in the future unless the technology for keeping wastes out of the streams keeps pace with industrial expansion.” What is called for are better treatment facilities to keep a greater quantity of wastes on shore.

Here, as with water resources, it appears that more information is needed, soon.

A new problem is coming—that of wastes from nuclear reactors and other nuclear installations in the state. Although this is a new area, Paessler says that “the basic approach will be the same as in others, that of weighing the volume and nature of the impurities in terms of the public interest and the uses to which the water is being put.”

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The unknowns mentioned are numerous; the guesses vary.

What will be Virginia’s population in the coming decades? How urban will it be? How industrialized will the state become? What will come from the experiments with nuclear energy for electric generation? Solar energy? How soon? What do the vital ground water resources of the state really constitute? Can technology in the treatment of wastes progress as fast as the growth of population and industry? Where does one put nuclear wastes?

Many of these questions are imponderables. Others can be answered by informed estimates. Still other answers could have been found long ago, but haven’t been.

Through all, however, one thread is constant.

State agencies, the electric power companies, municipal governing bodies, the people in the federal departments who produced many of the estimates of the future cited here, may differ in their numbers, but all foresee an expanding Virginia economy and are preparing for its needs.

The problems they cite and are preparing for are its price.
The Solid (Ivory) South

(Continued from page 3)

interests, today they provide the majority to elect him—because the other party bears the name of a group who existed a century ago. Without any of those statistics which the pundits always seem to keep at hand, I know of no folly in American history to compare with this regional vote in blind stupid prejudice. Not only does it validate the sneering criticisms at the South’s backwardness, chained to the corpse of a dead past, but giving this act of allegiance to a party that has spit upon them makes Southerners appear contemptible, without self-respect, as well as fools.

All commentators have agreed that, except for the minority groups whose self-interest was served, this was one of the most negative votes ever delivered by the nation’s citizens. The citizens representing the majority could find little to choose between the candidates or their parties, and mostly resignedly voted for what seemed the lesser of the evils. Outside the ghost-enshrouded South, as the amalgam of minorities went Democratic and the total vote counted, clearly the majority of Americans without special interests regarded the Republican as the lesser evil. But did the campaign manager of the victorious candidate acknowledge that the South’s political suicide had tipped the scales? Not at all, he attributed his brother’s victory to his television debates—though in the Northern states with the heavy electoral votes, New York, Massachusetts, Pennsylvania, the concentration of minority groups had assured the victory irrespective of any issues that might have been debated.

Naturally, self-interested politicians in the South found pragmatic motives for supporting the “old party” (though the South’s outstanding statesman, Senator Byrd, found no justification in such practical reasons), and doubtless Kennedy’s clycilically appointed running-mate made the customary promises to the dependable hacks, but it is most unlikely that these personal “understandings” exerted any significant influence on the voters. Only the mental solidification of ingrained prejudice could account for a vote against a label long since meaningless. For the future the debatable point, the open question, is whether the Southerners will take stiff-necked pride in their prejudice or suffer shame at being publicly used by an opportunistic grouping which despises them—probably now more than ever.

Despite what some Northern pundits think, Virginia is not a bell-wether of the South and has not been since the early decades of the nineteenth century. Like Tennessee, as a border state, Vir­ ginia was not stampeded out of the Union by the election of the first Republican president, nor has it given blind allegiance to a political label covering a party subservient of its principles and convictions. As such, these two states have achieved the dignity of the status of intelligent independents in a time of flux and indefiniteness in the parties in their relationship to national life—with the present drift of the Party called Democratic obnoxious to their fundamental beliefs. The practical result of this independence is to remove Virginia from the ignominious status of being taken for granted, like a poor relation.

Going somewhat beyond this position in cold practicality, supposedly benefited Mississippi quite deliberately and very ingeniously placed itself in a bargaining position by its vote for unpledged electors. Had the rest of the Southern states not been actually as benighted as Mississippi was supposed to be, the South would have been in the strongest bargaining position since the nominations of 1860—when the South dissipated its voting power and helped elect Lincoln on a lack of the popular vote. The irony of this voting record of the Lower South is that in the nominations of 1860 the South split the Demo­ cratic Party in antagonism to the political position of Northern Democrats. Since then, having assisted in the election of the first Republican—and him without a popular majority—nothing could sever their bonds from the Party they helped remove from power in a time of crisis. Now, however, Miss­issippi has shown a way in which the South can escape its self-made bondage without wounding its pride in its prejudices by casting a vote for a label which might disturb grandparents in their graves.

To all except the most mentally rigidified, the Solid Ivory South, inhabitants of the Lower South must have perceived after the fact that—even if they can self-defensively scorn the Border states of Virginia and Tennessee as “not really Southern”—had the voters possessed the intelligence to follow the practical wisdom of the deepest of the Deep South states, Southerners would have, incredibly, held the power of electing the 1960 president. Certainly the more sensitive, the more mentally acute, cannot escape some qualms over throwing away the opportunity to re­turn to a dominant role, instead of rolling over again to play doormat for labor bosses, NAACP’ers, and that idiot-element of “liberals” whose feistiest self-assertion comes in ridiculing the South. Maybe this is too much to be hoped for, but there is another factor which could enter as an influence.

Since the even vote indicated, outside the self-interested minorities, a clear repudiation of the economic-sociological liberal drift of the Democrats, if this trend is irreversible, the South will return to the old days of backing a losing proposition—only this time grouped in mutual loathing with ill-assorted bedfellows without the dignity of a cause or the motivation of reason.

As was said before in this magazine, it is not that there was anything to choose between the presidential candidates. Neither could have inspired less confidence in objective observers, unswayed by emotion or prejudice. Kennedy made the shrewder move of experience in choosing Johnson; Nixon, probably with no better motives, selected in Lodge a running mate who, before the campaign, seemed a figure of greater national appeal. Adroit John­son, at worst, did no harm nationally and may have helped in the South, especially Texas; Lodge pulled the rug out with an astonishing display of poli­ tical iniquity and blundering public relations. The whole point for the South was to cast a vote expressive of its convictions which, by ending its existence as the unwanted tail of a patchwork kite, would restore it to a position of authority, on the national political scene.

The one possible good to be derived is that a cold look at the result of its lost opportunity might guide the citizens of the Lower South to declare inde­ pendence again. Because the whole South failed in its 1861 attempt at independence is scarcely a valid reason for continued self-subjugation. The Lower South might repudiate Virginia for having caught on, but Mississippi is something else. Now Virginians can change the meaning of the old line, “Thank God for Mississippi.”

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