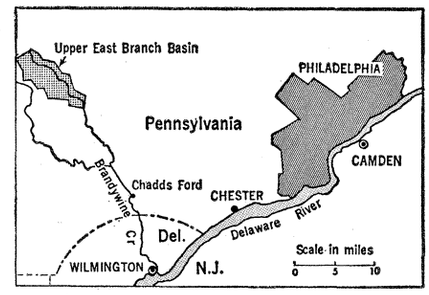
Brandywine Basin: Defeat of an Almost Perfect Plan



The Upper East Branch of Brandywine Creek runs through countryside which has remained virtually untouched since the creek gave its name to the Revolutionary War battle. But the pastoral valley lies within easy commuting distance of downtown Philadelphia, so that now urbanization seems imminent. To accommodate development of the region without sacrificing scenic beauty or water quality, the Institute for Environmental Studies (IES) of the University of Pennsylvania spent 3 years drawing up a plan for the river basin which is being widely acclaimed in regional planning circles. The plan skillfully treats every technical aspect of the problem, but evidently something was missing in the human dimension, for the residents of the basin flatly rejected the Brandywine Plan.

Beginning in Amish country, the Brandywine flows past the battlefield which bears its name, large holdings of the Duponts, and the countryside which produced painter Andrew Wyeth and author-conservationist William H. Whyte. The 37-square-mile basin of the Upper East Branch contains portions of eight townships and some 4500 residents, who pursue agricultural and semi-skilled occupations. The only industries in the region which discharge effluent into the Brandywine are two small operations, one for reprocessing paper, the other for producing iron fence posts, and their pollution of the Brandywine is small but not negligible. Human and animal wastes contribute the bulk of the pollutions, but in quantities which leave the stream's water reasonably clean. Towns in the neighboring regions are showing sure signs of development: trailer parks and drive-in theaters in the outlying regions, and a chaotic sprawl of houses, small businesses, and industry in the "Main Line" area nearer Philadelphia.

Thus, the Upper East Branch seemed the ideal subject to lawyer Ann Louise Strong of IES in the summer of 1966 when she was seeking an area for a long-term pilot study of planned regional development. She and her colleagues wanted to use the "conservation easement," a relatively new approach to protecting natural beauty and water quality, instead of the usual methods of zoning or fee simple purchase. Criteria for choice of an area were "that it lie just beyond the fringe of current urban expansion, that it be beautiful, that the residents be typical of people living on the rural-urban fringe, that the streams be clean, and that there be a local leadership eager to support the proposed project." All but the last of the criteria seemed to be met by the Brandywine basin, and Mrs. Strong went about soliciting the support of the local leadership. She got her support from the Chester County Water Resources Authority (WRA), which formally engaged IES to make the technical studies and develop a comprehensive plan. Government coordination of the plan was necessary because IES is strictly an academic research institution. County government seemed the right level of government to coordinate a plan affecting 37 square miles and portions of eight townships. IES was to discover too late, however, how much Brandywine residents resented interference with property rights and land use from government at any level.

The work began with funds from the Chester County Commissioners and the Ford Foundation; these were augmented later by the America the Beautiful Fund, the Pennsylvania Department of Forests and Waters, the Pennsylvania Department of Higher Education, the U.S. Geological Survey, and the Federal Water Pollution Control Administration. The funds went to a group of consultants in hydrology, limnology, sanitary engineering, and landscape architecture, and to lawyers, appraisers, and resource planners. IES estimates the overall cost of producing the plan at about half a million dollars. The goals were (i) preservation of water supply and quality, (ii) preservation of natural amenities for the enjoyment of the future population, and (iii) accommodation of normal growth of the region from the present population of 4500 to the projected 38,000 by the year 2020.

The result was *The Plan and the Program for the Brandywine*,* a 300-page technical report prepared by IES, WRA, the Regional Science Research Institute, and their consultants. The Plan seemed to achieve all its stated goals. Both water quality and natural amenity were to be preserved by conservation easements, which created buffer zones along the course of the creek and its tributaries in which all building was prohibited. This would protect woodlands, steeper slopes, and flood plains along streams, whose natural filtering action and stabilizing effect on the water table are important to stream quality. Water quality was to be preserved by the phased installation of a sewerage system and sewage treatment facilities to replace individual septic tanks. Increased population was to be accommodated by cluster developments in areas unrestricted by easements.

Under the easement system a landholder retains his property but sells his right to use the land in the ways forbidden by the easement. The cost of the easement is simply the difference in the assessed value of the property with and without the easement. An assessment firm retained by IES to determine fair easement prices in the basin estimated a total cost of $3 million for easements, to be purchased by the WRA, with federal assistance from a Housing and Urban Development Title VII Open Space Land Grant. This approach to land protection would work only if 80 percent or more of the landholders agreed to sell easements, and thus it was decided the county should use the writ of eminent domain if necessary to compel their sale. This was

* A limited number of copies of *The Plan and the Program for the Brandywine* (the technical report) and *The Brandywine Plan* (the short description) are available, postpaid, at $3.50 and $2, respectively, from the Institute for Environmental Studies, University of Pennsylvania, 3400 Walnut Street, Philadelphia 19104.

another decision the Institute for Environmental Studies would later regret.

While the many consultants were making their detailed studies of the Brandywine, the plan was taken to the people. The Board of Supervisors in each township appointed two residents to act as liaison between the people and the WRA, and the first sequence of public meetings was held in each township in the fall of 1966. John Keene and Ann Louise Strong of IES were disappointed at the meager attendance and apparent lack of interest, particularly since a detailed attitude study had indicated that, while residents valued the independence of the landholder and distrusted government intervention, they were more concerned with preserving the beauty of the Brandywine countryside and the quality of its water.

If the Plan met with apathy initially, there developed over the space of half a year a consensus of antipathy which was embodied in the Chester County Freeholders, formed to fight the Plan, and typified by defensiveness and suspicion. Indicative of the growing sentiment was an advertisement which appeared in a local newspaper early in the summer of 1967: "CITIZENS ALERT. . . . STOP THE LAND GRAB. . . . Do you wish 'Big Daddy' government to perpetually restrict from 50% to 60% of the land area of entire townships? . . . Do you believe in private ownership or state control? . . ." Since "Big Daddy" referred to the Chester County Water Resources Authority and not the federal government, a second group of public meetings seemed necessary to clarify the situation.

If the public meetings in the summer of 1967 were better attended, they were marked by growing acrimony and resistance to the IES Plan. At these meetings the representatives of IES and WRA learned that the residents had had many bad experiences with pipeline, power-line, and flood-control projects in which eminent domain was invoked with little attention to local interests or feelings. These seizures had been fought to no avail by the residents, but fought nonetheless—bulldozers were stopped at gunpoint in one case, and citizens spent thousands of dollars in court suits. The use of the writ of eminent domain contemplated in the Brandywine Plan precipitated a glandular reaction against the Plan as a whole.

The second set of public meetings led the Water Resources Authority and

NEWS IN BRIEF

• **WHITE HOUSE DIRECTIVE:** Expensive research equipment and facilities in federal laboratories are expected to be more readily available to university scientists working on their own research projects as a result of a directive from President Nixon. The action follows a 2-year investigation by the Committee on Federal Laboratories of the Federal Council for Science and Technology. The directive allows federal agencies to pay research costs at the Federal facility when a university investigator's project is consistent with the goals of the federal laboratory. All costs of research not directly related to the agency's mission must be paid by the university. The directive applies to all federal agencies and would make more uniformly available to scientists such facilities as atomic laboratories, national health research facilities, and agricultural research stations. It is left to directors of local facilities to decide which university proposals will be accepted.

• **STRICT COAL MINE HEALTH STANDARDS PROPOSED:** More rigorous air quality standards, based on British mine health regulations, have been included in a new Administration-backed bill on coal mine health and safety. Government health officials say the standards, which would eventually limit respirable dust in coal mines to 3.0 milligrams per cubic meter of air, are based on government studies in the United Kingdom that show that reductions in dust levels significantly lower the incidence and prevalence of pneumoconiosis, or "black lung," an incurable disease caused by coal dust. The Administration bill, introduced by John N. Erlenborn (R–Ill.), is being sponsored by a bipartisan block of congressmen. Hearings on the measure are now under way and are expected to continue through March.

• **KUSCH NAMED COLUMBIA VICE PRESIDENT:** Polykarp Kusch, who shared the Nobel prize for physics in 1955, has been named vice president and dean of faculties at Columbia University. Kusch, a member of the Columbia faculty since 1937, worked at the National Defense Research Committee's Radiation Laboratory at M.I.T. during World War II. As dean of the faculties at Columbia, Kusch will be responsible for staffing and coordination of Columbia's various schools.

• **FEDERAL COURT RULES ON ABM:** U.S. District Court Judge Hubert L. Will has denied a government motion in Chicago to dismiss a suit filed by Illinois residents who seek to prevent the location of an antiballistic missile site near Libertyville. Will has said the case will be heard. He declared, "There must be some point where executive insanity can be stopped."

• **SOCIAL SCIENCE FOUNDATION:** A bipartisan bill to establish a National Foundation for the Social Sciences, similar to the National Science Foundation (NSF), is likely to receive more notice in Congress this session. Twelve senators have added their names to the bill this year. The measure now has 32 cosponsors, including Senator Ralph Yarborough (D–Tex.), the new chairman of the Labor and Public Welfare Committee, which is expected to handle the bill. The measure, reintroduced by Senator Fred Harris (D–Okla.), would establish a foundation with broad powers for the support of research, education, and training in the social sciences. The measure also calls for a yearly authorization of $20 million.

• **MORE NEGRO ENGINEERS:** A new dual degree program to encourage Negroes to become engineers has been established by Georgia Institute of Technology and four predominantly Negro colleges in Atlanta, Ga. The new program, funded by a $265,000 grant from the Olin Mathieson Charitable Trust, will provide 85 students from Clark, Morehouse, Morris Brown, and Spelman colleges with support over the next 3 years. Students will attend one of the Negro colleges for 3 years for a bachelor of arts degree and then transfer to Georgia Tech for 2 additional years to receive a bachelor of sciences degree. In addition to cross enrollment and scholarships, the program will provide recruiting services to encourage high school students in low-income areas to seek engineering degrees. The combined graduate and undergraduate enrollment at Georgia Tech is about 7800 students, 43 of whom are Negroes.

the Institute for Environmental Studies to abandon eminent domain for voluntary compliance with the easement system, and to develop a short explanation of the Plan, since many of the objections to it seemed to bear no relation to fact. In April of 1968 an attractive, well-illustrated booklet (*The Brandywine Plan*) carefully describing the Plan was sent to residents in the Brandywine basin. The residents were allowed some time for reading and digesting the facts, and then another sequence of meetings was called, in the summer of 1968.

The third and final set of public meetings went like the second, however. The people resented "intellectuals" and outsiders telling them what to do with their land, and felt they were being railroaded, patronized, and lectured to; they suspected the WRA of engineering a land grab, questioned the patriotism of proponents of the plan, refused to become "dupes of the Duponts," and so on.

The negative and abusive atmosphere of the public meetings at length became a source of embarrassment to some of the residents, and they were moved to form a Planning Commission for the region, at about the time of the last public meetings. The 14-member commission has pledged itself to develop a viable alternative to the IES Plan, one which embraces the same goals but which achieves them through local (that is, township, not county) ordinances rather than easements. Chairman Carl Maenak, a teacher of history at a private boys' school, envisions a long period of "education" in which the local people come to understand that a plan is needed and the Planning Commission learns the peoples' views on what should be done with their land, and how.

Maenak insists that the shrill opposition to the IES Plan does not indicate indifference to the quality of water in Brandywine Creek—quite the opposite. The residents, he says, consider the stream's present purity to be due to their wise land management practices over generations, and not some happy accident. They resent the presence of the two industries which are polluting the Brandywine, and feel it is because of the weakness of county authority that these continue to operate without proper effluent treatment. Maenak and his commission feel that Pennsylvania has all the laws necessary to protect the basin of the Upper East Branch; higher levels of government have defaulted on their obligation to enforce these laws, and now it is time for local government to take over.

So the WRA-IES Plan for the Brandywine is dead, and a plan based on local police power seems years in the offing; the time is right for the land speculation which always accompanies the change from rural to urban land use. If the time, money, and effort spent on the Brandywine Plan was wasted on the Brandywine itself, the Plan is serving as a model for the development of watershed plans in other regions of Pennsylvania and the Northeast. Much of the work done by IES and its consultants can serve as base-line data for these other plans, which can thus be drawn up for a fraction of the cost of the Brandywine Plan. And perhaps the lesson in human relations which came out of the confrontation between "experts" and rural Americans is the most valuable piece of base-line data to emerge from the study.—PETER THOMPSON

Paine Named NASA Administrator

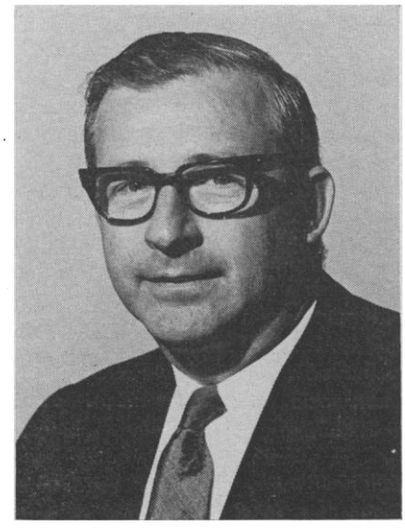
The new head of the National Aeronautics and Space Agency, Thomas O. Paine, has a background in industrial research and research management. Paine joined NASA in January 1968 as deputy administrator, the space agency's No. 2 post, and has been acting administrator since October, when his predecessor, James E. Webb, retired.

When President Nixon announced Paine's delayed-action appointment last week, Nixon said, "after searching the whole country for somebody perhaps outside the space program, we found, as is often the case, that the best man in the country was in the program."

Paine, 47, was manager of TEMPO, General Electric's "think tank" in Santa Barbara, California, before he went to NASA. Paine joined GE in 1949 and served in a series of research and research administration posts of ascending importance before he went to TEMPO as manager in 1962.

After completing undergraduate work in engineering at Brown, Paine served as a submarine officer during World War II. He then earned M.S. and Ph.D. degrees in physical metallurgy from Stanford.

Paine takes over NASA leadership at a time when the Apollo program is approaching the climatic landing on the moon and when the space budget is declining and NASA's mission in the 1970's is uncertain. Some observers have suggested that the Air Force may be given a larger role in space, and that NASA might be reduced to a junior partner or even be merged with the Air Force.



Thomas O. Paine

Paine's appointment comes as a further example of Nixon's willingness to include in his administration top officials of science-based agencies who served in the preceding administration. Unlike Leland J. Haworth, director of the National Science Foundation, and Glenn T. Seaborg, chairman of the Atomic Energy Commission, who are both serving term appointments, Paine has no specific term attached to his job. There is slight irony in new Air Force Secretary Robert C. Seaman's being numbered along with Paine among the highest-ranking officials who also served in the Johnson administration. Seamans was Paine's immediate predecessor as NASA deputy director.—J.W.