Letters

Conservation Plan: A Classic Pattern of Defeat

Thompson's account (14 Mar., p. 1180) of the defeat of the Brandywine Basin Plan is another example of what is now virtually a classic pattern. A plan considered good by technical experts is rejected by the people. From this account of the study plan, it could almost have been predicted.

From the model of planned change described by Lippitt *et al.* (*1*), several trouble spots are immediately clear. There were at least two relevant client systems, the Chester County Water Resources Authority (WRA) and the residents of the basin. A change relationship was established by the Institute for Environmental Studies (IES) only with the former. A substantial amount of diagnosis and the development of the proposed solution apparently took place before the change relationship was established even with the WRA. The requirement that 80 percent or more of the landholders sell easements made it almost impossible to begin working toward change in a small way to demonstrate the value of the proposed change. Had the IES been undertaking only an academic exercise, without seeking implementation of the plan, concentration on physical, economic, and legal studies might have been justified. However, like most planning studies, the Brandywine study seemed to have implementation as an ultimate goal. If this was so, the twin goals of a good plan and effective implementation should have been pursued jointly.

It is becoming fashionable to speak of including social scientists on the planning team. This will not necessarily guarantee success in either planning or implementation (especially if the social scientist is not allowed to make his proper contribution). It seems clear, however, that in the case of the Brandywine Basin a sociologist knowledgeable in the processes of planned change, innovation diffusion, and communication behavior could have made a significant contribution. He could first have (i) identified the two (or more) relevant client systems; (ii) pointed out the dangers of a preconceived solution; (iii) uncovered the history of eminent domain failures at an earlier stage than summer, 1967, when opposition had become formidable; and (iv) planned an information campaign that provided for two-way information flow and did not rely so heavily on written communication.

Thompson states that 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." It is, indeed, one more example of a now classic situation. Unfortunately, it is not new. The municipal water supply fluoridation issue has many similarities, as does freeway planning in urban areas. The change attempts in other countries cited in the valuable collection edited by Niehoff (*2*) are also similar, despite major cultural differences.

It would appear that planning in the United States and elsewhere could profit greatly from the contributions of social scientists who have an appreciation of the role they could play, who are willing to become involved in such efforts, and who are allowed to make their proper contribution.

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References

1. R. Lippitt, J. Watson, B. Westley, *The Dynamics of Planned Change* (Harcourt, Brace and World, New York, 1958).
2. H. Niehoff, Ed., *A Casebook of Social Change* (Aldine, Chicago, 1966).

Lysine Enrichment: A Vision Still

Abelson's editorial (4 Apr., p. 17), which emphasized the worldwide importance of the recent article "Nutrition and learning" (*1*), was perspicacious and timely. I agree that people must be educated to eat the proper things at the proper time, and the objectives of the U.S. food program of the Department of Agriculture are very laudable, but I am reminded of a very recent nutritional debacle which was forced on the public by no less an agency than the Food and Drug Administration.

The E. I. du Pont de Nemours and Company developed a process for producing L-lysine in abundance and then proceeded to foster research, both within and without the company, from 1952–60 to show that L-lysine, added as a free amino acid, could improve the nutritional qualities of the standard loaf of bread. But for some obscure reason, the FDA forbade the addition of L-lysine to the standard loaf. Why? Prior to that, the FDA had allowed the addition of vitamins for enrichment and the addition of sodium propionate to prevent the standard loaf from molding when sliced and packaged.

It would appear that the greatest need for education is not for the populace, but for those governmental agencies which lack vision and have at the same time the power to veto the vision of others.

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Reference

1. H. F. Eichenwald and P. C. Fry, *Science* **163**, 644 (1969).

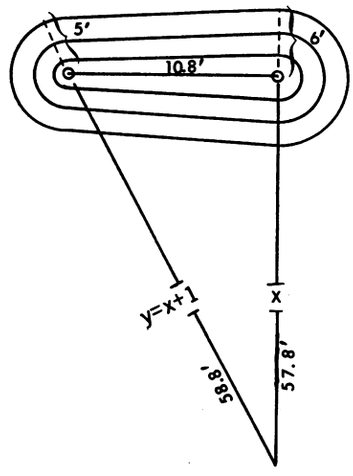
Pythagorean Marvels in the Okra Patch

In addition to the Pythagorean triangles in Woodhenge and Canterbury Cathedral, I would like to add some of my own to Borst's collection of Pythagorean marvels ("Megalithic plan underlying Canterbury Cathedral," 7 Feb., p. 567).

My aunt Eloise plants her okra in the following manner: There are two clothes poles in her backyard which are 10.8 feet apart. She plants a 1-foot half circle of okra around one post, a 2-foot half circle of okra around the other, and connects them with two barely curving arcs of okra. For the next ring, she plants a 3-foot half circle of okra around the first post, a 4-foot half circle of okra around the second post and connects them, and so forth.

Until Borst pointed it out, I never realized that she planted her okra in the Woodhenge oval corresponding to the Pythagorean triangle with sides

10.8 feet, 57.8 feet, and 58.8 feet (see computation). On Mondays when it is not raining, she also hangs her wash on the clothesline connecting the two posts, creating a truly beautiful spectacle.



$$y + 5 = x + 6$$
$$y = x + 1$$

$$y^2 = x^2 + (10.8)^2$$
$$(x + 1)^2 = x^2 + (10.8)^2$$
$$x^2 + 2x + 1 = x^2 + 116.64$$
$$2x = 115.64$$
$$x = 57.8$$

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Frogs and Humans

With regard to the report "Bullfrog (*Rana catesbeiana*) ventilation: How does the frog breathe?" (14 Mar., p. 1223), frogs breathe exactly the way that people do who, having lost most of the use of their intercoastal muscles and diaphragm, perform what physicians have long called "frog breathing."

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Odoriferous Ancient Lamps

Four hundred years before Pliny, Aristotle wrote: "Mares miscarry at the scent of an extinguished lamp; this happens also to some women." This is the probable source of Pliny and others who make the same remark (Letters, 21 Mar.) . . . Montagu will find out about lamps if he plows on through the *Natural History*. The ancients preferred clear olive oil for lighting, but burned anything they could, including castor oil and tallow. The wicks were of any capillary material—papyrus waste, rope, and wool were used, and the wick might contain sulfur to help it catch. There were many nauseous possibilities. . . .

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University Gains from Federal Research

A realistic discussion of the indirect costs of project grants should include a consideration of the indirect benefits that the institution derives from such projects. In his examination of the Mansfield Amendment, Pettit states that the university is not the grantee ("Congress, confusion, and indirect costs," 21 Mar., p. 1301). According to the Public Health Service a grantee is "the university, college, hospital, public agency, or nonprofit research institution. . . ." (*1*). Some principal investigators who have transferred to another institution have experienced the truth of this definition and have found it very difficult or impossible to obtain institutional release of equipment purchased with funds awarded for their projects, even if these projects are active and are to be continued in the new institution. I submit that such equipment may certainly be regarded as an indirect subsidy, since accountability is usually waived and title is customarily vested in the original grantee institution. This is not the only or the most important of the indirect benefits that accrue to grantee institutions because of the federally supported research and training activities of their principal investigators or program directors. It is at least a defensible argument that the benefits thus received by the grantee institutions roughly compensate them for their contribution to the indirect costs of those activities. This, in fact, may be one reason, as important as academic competition, why universities have not agreed to refuse grants or contracts providing what they consider only partial reimbursement of indirect costs.

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Reference

1. *U.S. Public Health Serv. Publ. No. 1301*, rev. 1967, p. 2.