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The Scientists Go to Prep School

Where is the courtroom genius of Yannacone? The scientists who testified for the petitioners at Madison were extremely impressed by the ebullient lawyer's grasp of even the most complex scientific issues and were dazzled by Yannacone's devastating cross-examination of key industry witnesses. But perhaps the most singularly impressive aspect of Yannacone at Madison was seen not in the courtroom but outside it. There, each evening before a session of the hearing, he presided over the most excruciating prepping of witnesses imaginable; scientists who would be testifying in court the next day would be all but terrorized. In fact, Yannacone was far more brutal with his own witnesses during preparation than were the industry's attorneys in court.

As one scientist who squirmingly endured one of Yannacone's prep sessions said later, "After Vic was through with me that night I wasn't even sure about my own name, let alone the validity of my own research." But Yannacone's technique worked almost to perfection. None of the petitioner's 16 witnesses came out of cross-examination badly scarred, a claim that the DDT industry's witnesses frequently could not make.

Yannacone's prepping was reminiscent of the Marine Corps technique of smashing a recruit's ego and remolding it in a tougher image. Scientists came to Madison full of bravado and professional self-assurance. But to Yannacone these qualities did not automatically make them into valuable witnesses who could hold up under heavy cross-examination. For the most part, the witnesses had no previous baptism under fire. They had never stood up to anything more intellectually dangerous than a student's question or a challenging letter to the editor of a journal in which they had published. But the courtroom is a jungle compared to even today's classroom or laboratory, and a clever lawyer is not a knee-jerk respecter of the rank or prestige of an opponent's witness. The only way a trial lawyer professionally survives is by winning his case, and the only way he can win is by diminishing the effect of witnesses on the other side.

Yannacone fully understood this, and each night after a communal dinner with the petitioners' forces, he would put tomorrow's "star" on the hot seat. He would allow the star to wax eloquently about his specialty and about what he planned to say at the hearing the next day. Then he would tear him apart, ripping out speculations, moralizing, and conclusions that couldn't be supported by hard, first-hand data. Often the potential witness, petrified and unsure of himself for the first time since his undergraduate days, would passively take Yannacone's advice on what he should and could not honestly say under oath. It worked. None of Yannacone's witnesses made a serious error on the stand. They had been through Yannacone's prepping hell, and the purgatory of the hearing room was not really challenging in comparison.

But even though Yannacone completely dominated those long hours of prepping, things didn't always proceed sweetly during them. Tempers flared, voices shrieked, and more than one scientist threatened to pack up his papers and reputation and charge back to the sanctuary of his university or laboratory. But whenever things became too hot and heavy and resentment toward Yannacone rose to the danger level, other scientists would jump into the verbal fray to soothe ruffled feathers and remind the witness, once more, how necessary it was to present only first-hand concrete data.

This special feature of science in the courtroom was an important aspect of the case. Before the Madison hearing, scientific information had seldom been broadly utilized in a legal setting. For one thing, putting scientific answers and questions in legal terminology isn't easy. In many ways, it's a mixed metaphor.

Take the matter of proof. To a scientist in a laboratory, a problem has not been solved; an answer cannot be accurately given if an exception to it exists. A judge or jury looking at scientific evidence, however, would not be so strict and would only demand that a preponderance of the evidence support a particular hypothesis or point of view. Perhaps the best example of this difference between the standards of proof in "pure" science and "courtroom" science can be summed up by a New York court ruling* often cited by Yannacone.

> While scientific accuracy demands of the scientist or doctor proof of cause which approaches absolute certainty, the law requires only a reasonable certainty or probability shown by a preponderance of the evidence . . . Plaintiff's proof is not required to soar into the icy stratosphere of certainty. It is enough, earth bound and flat footed, if it merely tips the scale of more probable than not.

This paragraph points to a distinction that was to become increasingly important to Yannacone the lawyer and to the scientists involved

**Zaepfel v. E. I. Du Pont de Nemours and Company,* 284 App. Div. 693 (N.Y.).

in courtroom environmental battles. Was, in Yannacone's phrase, "a reasonable degree of scientific certainty" enough? Could a reputable scientist stake that precious reputation on anything short of what he thinks at that time to be absolute? (Though one may ask if a scientist ever *really* knows anything for sure.) And, if he were willing to stick his neck out, how far? How would he define "reasonable certainty?"

Another problem arose. The courtroom is not the laboratory, and the evidence produced by the environmental specialists became more than a simple recounting of the scientific data that ivory tower science is about. Intertwined with the numbers, statistics, and regression lines were personal beliefs and comparative values.

The definition under Wisconsin law of "pollution" itself contributed to the subjective air which entered the hearing and could not be divorced from the hard science. Under Wisconsin law a pollutant is a substance, released into the environment, which has deleterious results. On the surface, this definition could cover every substance released by man into his world, and a strict enforcement of this statute would have the de facto effect of stopping human life itself. Once accepting, then, that it is impossible to ban *all* pollutants, choosing to ban one particular one rather than another is a value judgment. A more practical definition of a pollutant as a substance whose deleterious aspects outweigh its meritorious aspects, further highlights the moral ambiguities of the term.

In reality, then, scientists testifying in a case like that in Madison in an attempt to convince a judge or examiner that a particular form of environmental degradation is bad, have themselves, after examining the scientific evidence, made a moral decision. Thus, the battle in Madison was a struggle of values first and foremost, with scientific data as ammunition and the hearing examiner, Maurice Van Susteren, as referee for the combatants.

The effect of this ethical courtroom dichotomy is illustrated by the fact that Yannacone and his cohorts had then never won a clear-cut courtroom decision, yet were instrumental in restricting the use of DDT in the United States. The evidence the group brought together in Madison provided an almost overwhelming case for banning the pesticide. However, federal action finally occurred not because a judge ruled or Congress legislated that DDT was detrimental to the environment, but because hearing publicity aroused the public to a degree that even *Silent Spring* had not been able to match. Perhaps this is the nub of the legal approach to environmental problems.

The theme of choice and value set so often during the hearings was evident in the testimony of the very first witness, Gaylord Nelson, who, like the petitioners, had made up his mind before the hearings began. "This hearing" he said, "affords an opportunity to take a significant step that may well have historic consequences. The specific

question before us is whether the overall benefits of DDT are offset by the damage it does . . . . This is a matter that must be measured in the long range and not the short. I think the evidence is clear that the damage is far bigger than the benefits."

Having Senator Nelson as the first witness at the Madison hearings was in some ways like having the President of the United States throw out the first ball of the baseball season. It was an honorary task for the man who had long been the Senate's leading critic of the misuse of pesticides; it was almost a sacred obligation to the environmentalists, now that the biggest battle yet was about to begin on Nelson's own turf. But Senator Nelson's testimony was ritualistic in one sense. It was a litany he had given many times before, and Louis McLean, the Task Force's lawyer, would not dare to attack it any more than the player who caught the President's first pitch would make a crack about his throwing arm. It was a preview of coming attractions.

In the days that followed, it became apparent to observers, especially scientific ones, that the legal maneuverings that go on during

Willard S. Stafford

scientific testimony in a courtroom have nothing to do with science. Some of these maneuvers attempted to establish guilt by association, others strove to cloud the issues; both were tactics which appalled many scientists who appeared. But in Madison these techniques often backfired, basically because industry—at least initially—depended too heavily upon them.

The technique of personal attack was something Louis McLean, the DDT industry's lawyer, had become a master of in his years with the Velsicol Chemical Company. But, while he was concentrating on personalities, scientists around the country were amassing data. McLean proved too rigid to cope with this development, the concerted broad-spectrum attack of the environmentalists, and the change in public mood. This undoubtedly was the reason that he was replaced during the hearing by Willard Stafford, a lawyer more polished, delicate, and better able to cope with the coalition of petitioners. Yannacone admits that if Stafford, a top midwestern trial

The anti-pesticide leader . . . can almost always be identified by the numerous variant views he holds about regular foods, chlorination and fluoridation of water, vaccination, public health programs, animal experimentations, food additives, medicine, science, and the business community, or by his insistence that insecticides should be mistermed "biocides."
Louis A. McLean

lawyer, had been on the scene from the beginning, and had handled the cross-examination of such witnesses as Charles Wurster (who spread himself thin in his lengthy testimony and cross-examination), the petitioner's case might have appeared shakier than it turned out to be.

McLean spent too much time with such witnesses as Wurster and Robert Risebrough in attempts to discredit them professionally; something which had worked on anti-DDT witnesses in the past. But public sentiment and scientific evidence made his attempts puerile. The more McLean examined, the more the scientists talked for the record, and the better the environmentalists' position became.

Yannacone too was not above the discrediting technique, which he used to better advantage on McLean himself. After Senator Nelson's speech, Yannacone called McLean as his initial target in an attempt to damage the DDT industry's position by discrediting its attorney, a man who had frequently and in an unwarranted manner stuck his nose into scientific matters.

In a 1967 issue of *BioScience*, a publication of the American Institute of Biological Sciences, McLean had written an article claiming some amazing things about the critics of pesticides.* To summarize, he had said that they were of the "compulsive" variety, concerned excessively with sexual potency, and were primarily composed of health nuts and/or food faddists. This article was read into the record along with the austere data of long-trained scientists, making it a well-varied 2,500 page document.† Goading McLean into reading into the record some of his ludicrous written statements had little to do with scientific evidence and DDT's harmful nature but it did make good newspaper copy and did make the industry look rather peculiar.

The issue of "my scientists being better than your scientists" also popped up in the final brief of the Industry Task Force for DDT for the National Agricultural Chemical Association. In concluding this document, the DDT Task Force said, "In evaluating the evidence given in this proceeding, a comparison must be made between opposing witnesses. Those testifying in opposition to the petition (Dr. Pepper is a good example) brought to this hearing a combination of scientific training, actual experience and integrity which must give their [industry's] testimony great weight. On the other side all too often the

*Louis A. McLean, "Pesticides and the environment," *BioScience* 17 (1967): 613–617.

†The magazine *BioScience* flared up again in the trial when Yannacone objected to McLean lumping it in the same category with *Science*, the weekly journal of the American Association for the Advancement of Science in which Wurster had published some of his papers. "You can't lump *BioScience*, which publishes McLean's drivel, with *Science* magazine," bellowed Yannacone during the hearing. Yet, when Wurster wrote up the Madison hearings for publication, his article was published in none other than *BioScience*, illustrating how strange the legal shennanigans which make up a court record are, if viewed in a broader context.

witnesses ranged far outside of their own areas of expertise to express opinions which they were totally unqualified to render."

Whose scientists were "better"? A very deep question. Seemingly, the public said the petitioner's experts were better; at any rate, the petitioners were able to garner a much more inclusive body of data than was industry. But the record speaks for itself, and in its direct and cross-examination the story is told better than in any summary. To understand the drama of Madison one must turn to the record and let it stand for itself as much as possible.