To ensure a strong and in-depth capability for planning and assessment to support policy-making, the Executive Office elements should be able to look to the National Science Foundation to mount and carry out a substantial level of science policy research, analysis, and reporting.

What matters, to repeat, is not so much the organizational mechanics but rather the explicit provision for lively and complete presidential staff work—staff work which captures and gives weight to scientific and technical considerations in the examination and choice of policy alternatives and program strategies. This is what the current issue is primarily about. The purpose of the organizational decision is to focus—visibly, clearly, and effectively—the initiative and accountability for delivering such staff work with continuity and impact. The organizational answers should match the demands of the assignment, and should be seen as doing so.

2) An Office of Research and Development Management with the responsibility to evaluate programs, set priorities, provide quality assurance, see to policy coordination, and stimulate new initiatives. This office can be either a separate unit in the Executive Offices or an element in the OMB headed by a presidential appointee.

3) Principal reliance on the National Science Board and the director of the National Science Foundation, working closely with other federal scientific and technical agencies, for assessments of the nation's needs and opportunities for the advancement of science and education for science and engineering. Effective outreach should be maintained with the National Academy of Sciences and the National Research Council, as well as with scientific, professional, and public interest groups.

Closing Comments

Organizational inventions tend to lose vitality over time, and to become preoccupied with problems of the past rather than the future. Organizational lag is one of the afflictions of bureaucratic life. We believe that our suggestions are appropriate for as far ahead as we can look, but we strongly recommend that future administrations keep an open mind and open options as to the character and appropriateness of any set of science policy and managerial institutions. Events may call for different arrangements, and the national policy machinery must have the ability to recognize the need for change and revitalization.

References

1. A selected few of the large number of articles and statements which have appeared on the subject of science advice for the Executive Branch over the last 2 years are: U.S. House of Representatives, First and Second Hearings before the Committee on Science and Astronautics, *Federal Policy, Plans, and Organization for Science and Technology* (93rd Congress, 1st session, July 1973, and 2nd session, June and July 1974) (see also Interim Staff Report of the Committee bearing the same descriptive title and issued May 1974); Ad Hoc Committee on Science and Technology, *Science and Technology in Presidential Policy-making—A Proposal* (National Academy of Sciences, Washington, D.C., June 1974); G. B. Kistiakowsky, *Science* **184**, 38 (1974); D. W. Bronk, *ibid.* **186**, 116 (1974); E. B. Skolnikoff and H. Brooks, *ibid.* **187**, 35 (1975).

NEWS AND COMMENT

Edelin Trial: Jury Not Persuaded by Scientists for the Defense

Boston, Massachusetts. The manslaughter trial of Kenneth C. Edelin is over now. It dragged on for six long weeks in Suffolk County Superior Court here and ended on Saturday, 15 February, when an all-white predominantly Roman Catholic jury returned a verdict of guilty. The jurors convicted Edelin, a black physician, of killing a black "baby boy" during the course of a legal abortion at Boston City Hospital. After the verdict, Edelin attributed his conviction to jury bias and called the trial a "witch-hunt."

The question of race was not raised during the trial; nor did it figure prominently in pretrial discussions of the case by either defense attorney William P. Homans, Jr., or assistant district attorney Newman A. Flanagan, chief prosecutor. But it was raised rather dramatically after the verdict was in when alternate juror Michael Ciano quoted an unnamed juror as saying, "That nigger is guilty as sin." Other jurors denied there had been any racial slurs, and some said that they did not know that Edelin, who is light-skinned, is black.

This is the third article about the Edelin trial to appear in the News and Comment section. The first (25 October 1974) discussed the origins of the case and some of the complex medical and legal questions involved. The second (31 January) discussed the opening of the trial and its emphasis on connotative language, the prosecution referring to a "baby boy" or "male child" while the defense spoke about a "fetus" and the "products of conception."

On Tuesday, 18 February, Judge James P. McGuire, in an action that Edelin called "extremely fair," imposed a sentence of 1 year's probation. After that, the trustees of Boston City Hospital issued a statement of support for Edelin, calling him an "outstanding physician" whose "actions and medical practice have been consistent with the highest prevailing standards of medical care." They asked him back to work; he went.

The trial may be over now, but the case is not closed and the issues it raised are not resolved. Edelin is appealing his conviction. In one motion now before Judge McGuire, his attorney is asking the judge to overturn the verdict on the grounds that the jurors misunderstood and misapplied the law. Homans is basing the motion on an old state law and citing as precedent a 1944 decision that reads:

> It is the right and duty of a trial judge to set aside a verdict when in his judgment it is so greatly against the evidence as to induce in his mind the strong belief that it was not due to careful consideration of the evidence, but that it was a product of bias, misapprehension or prejudice.

Homans is emphasizing "misapprehension" of the law on the jurors' part,

saying, in part, that they seem to have confused negligence with "wanton and reckless" behavior which the judge said they would have to find Edelin guilty of in order to convict him. He is not stressing bias or prejudice among the jurors because, "We have no hard evidence."

If this motion fails, he will ask an appeals court to rule that the conviction violated Edelin's constitutional right of due process in that he had no way of knowing that he could be accused of doing anything legally wrong in performing the abortion the way he did. According to Homans, abortion by definition means the death of the fetus. Therefore, he contends, in charging Edelin with failure to preserve the life of the fetus, the district attorney was writing his own law.

All along, Flanagan, denying that he was out to rewrite the abortion laws, insisted that this case was about manslaughter, not abortion. Homans just as insistently argued the opposite. On the final day of the trial, Judge McGuire told the jury that, in this particular instance, it was almost impossible to completely separate the two ways of looking at the case. The charge to the jury was the climax of the trial, and each side hoped that McGuire would explain the law in a way that favored its position. During the last days of the courtroom battle, there was a feeling that the judge's charge would be crucial, that it could virtually decide the case. In retrospect, it is not clear that is what happened.

It was on Valentine's Day that McGuire delivered his charge. Edelin, looking drawn and anxious, sat in his usual place in the center of the drab, high-ceilinged courtroom. On the table in front of him he had an ordinary yellow legal pad. He had written "The Day" in large letters across the top and underlined his words. It was about 10:15 a.m. when court officers cleared the room of everyone who had no seat and, then, locked the courtroom doors. There would be no walking in and out while the judge instructed the jury.

McGuire told the 13 men and 3 women* that it was their responsibility, and theirs alone, to determine the facts in the case. It was his duty, he said, to determine the law. They would then have to apply the law, as he interpreted it for them, to the facts. They were not to make their own judgments about the law, just apply it, whether they agreed with it or not.

Determining the "facts" in the Edelin case is next to impossible. There was conflicting testimony from witnesses on almost every point and little in the way of uncontrovertible data to support either side.

The essence of the charge against Edelin was that, during the course of a legal abortion, he deliberately suffocated a viable fetus that the district attorney believes he should have tried to save.

A 17-year-old girl, accompanied by her mother, went to Boston City Hospital in September 1973 seeking an abortion. She was estimated to have between 18 and 24 weeks pregnant. The prosecution's star witness, Enrique Gimenez-Jimeno, was a resident in obstetrics and gynecology at the time. On 30 September, he examined the patient and concluded she was 24 weeks pregnant and that the fetal heart rate was 140.

Hugh R. Holtrop, a senior physician at the hospital, also examined the patient. From his records, he testified that he thought she was only 20 to 22 weeks pregnant, probably closer to 20 weeks. Holtrop said that he saw the patient on 1 October and that she consented to participate in a blood study he was conducting, thereby postponing the abortion by 24 hours. On 2 October, Holtrop's study of the patient completed, attempts were made to induce abortion by infusing a saline solution into the girl's uterus. Two attempts that day were unsuccessful.

On 3 October, a third attempt at saline abortion was made, but, because they were observing blood in the amniotic sac, the physicians, including Edelin, decided it was unsafe to the mother to continue saline. A decision was made to perform an abortion by hysterotomy, a surgical procedure described as a miniature cesarian. Edelin performed the operation. Afterward, the body of the fetus was sent to the pathology department where it remained until it was discovered some months later by members of the district attorney's staff who were investigating the hospital.

Many Facts Unproved

During the course of the trial, attempts were made to establish a number of facts about the operation and about the fetus. It was Gimenez-Jimeno who testified that he witnessed a killing. He told the jury that Edelin opened the uterus of the mother, detached the placenta from the uterine wall, and then, instead of removing the fetus, left it inside the uterus for 3 minutes, during which he watched a clock on the operating room wall.

The prosecution contended that, in so doing, Edelin suffocated the baby. According to Flanagan, once the placenta had been detached from the mother, the fetus became a baby, "born or in the process of being born," and that it was an "independent person."

The defense refuted the prosecutor's evidence. It produced a witness who said that Edelin had not delayed in removing the fetus from the mother but that he had performed the hysterotomy in a usual, medically acceptable way. It produced witnesses who said there were no clocks in the operating room, so Edelin could not have stood looking at one. The defense suggested that there was great likelihood that the saline infusions administered prior to the start of the operation had killed the fetus, that it was dead before the surgery began and, therefore, could not have been subsequently murdered. But there was no proof. Under cross-examination of Edelin, and other witnesses called as "experts," it became clear that no one had attempted to determine whether the fetus was alive immediately prior to the abortion. There was testimony that such an attempt is seldom made. One expert witness for the defense testified that it did not really matter whether the fetus was alive or dead.

The prosecution called on expert witnesses who said that an examination of the lungs of the fetus showed it had breathed. Witnesses for the defense disputed that claim. It is hard to conclude that the point was proved one way or the other. Nor was the gestational age of the fetus ever settled. In addition to testimony from persons who had actually examined the patient, there was testimony about the weight of the fetus after death and its relation to gestational age. The fetus was preserved in formaldehyde. Some said that increased its weight, others that it decreased it. Boston City Hospital pediatrician Jeffrey Gould, testifying as an expert witness, not as one directly involved in the case, said that black fetuses weigh significantly more at young gestational ages than white fetuses. He said the fetus could have been as many as 6 weeks younger than the prosecution alleged.

Conflicting evidence: the age and

* Sixteen jurors were impaneled at the start of the trial. At its conclusion, four were eliminated by lot and designated alternates.

viability of the fetus, the 3-minute wait, the presence of clocks in the room. By the end of the trial, it was not even certain in which of two operating rooms the abortion had occurred. In his charge, Judge McGuire told the jurors that they would have to decide these things. "You are the sole judges of the credibility of witnesses," he said, and explained that they could accept all of someone's testimony, none of it, or part of it. A witness's demeanor, choice of words, and manner of presentation could be taken into account in evaluating credibility, he said.

McGuire reminded the jurors of Edelin's right to a presumption of innocence and of the fact that the burden of proof rests with the prosecutor. To convict, they would have to find the defendant guilty beyond all reasonable doubt. "If the evidence equally sustains inconsistent testimony, it cannot be said to be proved," the judge noted.

McGuire explained the law dealing with manslaughter. To be convicted, the defendant would have to be found guilty of more than "negligence." The jury would have to find him guilty of "wanton and reckless behavior" in the death of the fetus for it to be manslaughter.

Then, McGuire addressed the matter of Roe *v.* Wade, the Supreme Court decision on abortion. "Whether you like that decision or not, approve it or disapprove, you must accept it as the law of the land," the judge instructed. Although the Roe *v.* Wade decision allows states to pass laws regulating abortion under certain circumstances, Massachusetts had no abortion law on the books on 3 October 1973 when Edelin performed the abortion. Therefore, declared McGuire, the Supreme Court ruling prevails. The decision about whether to abort a fetus must be left to the judgment of the physician.

To bring in a guilty verdict, the jurors would have to find that the deceased was a "person" under the law, which McGuire said generally means after birth. "A fetus is not a person and is not a subject for manslaughter," he asserted, to the audible approving sighs of Edelin's many supporters. "A person has to be born."

In the moments immediately after the conclusion of the judge's charge and the departure of the jury, both Flanagan and Homans called the judge's charge "fair." Flanagan was pleased that, in addition to saying a person had to be "born," he had added "or in the process of being born." Flanagan had put much store in the idea of birth as a process. Homans had hoped that McGuire would have instructed the jury in the definition of abortion as something presuming the death of the fetus, but indicated he was hopeful that the verdict would be not guilty. Edelin's supporters were confident there was no way the jurors could conclude that the fetus was a person who had been born.

They were wrong.

The conviction stunned members of the medical community, research scientists, and various groups that advocate abortion, including women's groups. The evening of the verdict a candlelight service was held on the steps of Massachusetts State House to protest the verdict. "Right-to-life" organizations and officials of the Roman Catholic Church saw the verdict as a victory. There seems to be little doubt that Edelin's conviction has frightened many doctors and hospital officials. Some have said they will no longer perform abortions after the 20th week of pregnancy. Others have announced plans to keep life-support equipment in the operating room to try to save any fetus that might appear to be viable. No one has said who would be responsible for such a fetus, were it to survive. Abortion foes say all this will force the medical profession to have a new respect for life.

But it seems too simple to view the verdict as either a victory or a defeat. Comments by the jurors suggest that they were influenced most strongly by only a couple of elements brought out in the trial and that they were not acting on the basis of any significant abstract analysis of the issues at all.

On the day preceding the judge's charge to the jury, the defense and prosecution delivered their closing arguments. Homans, appearing humble, his voice sometimes barely audible, emphasized the necessity of allowing physicians to act according to accepted medical standards. Otherwise, "not only Dr. Edelin will suffer, but also your physician and mine and thousands of other physicians in the country . . . will suffer." He called upon the jurors to use their common sense in coming to a judgment and implored:

> Unless you find that Dr. Edelin was some kind of ogre who was going out to terminate the existence of babies, to kill babies with some kind of malicious intention, instead of a physician performing a medical task, however pleasant or unpleasant it may seem to a physician exercising his best judgment, I suggest that you will find that Dr. Edelin acted in accordance with his best judgment.

Although some jurors reported after the trial that they did not find Edelin an ogre, it is apparent that they were not persuaded by the idea that it is sufficient to act according to usual medical standards. "I believe the majority thought Dr. Edelin was a very fine doctor, a competent doctor," juror John G. Kelly is quoted as saying, "but the majority thought he was really unconcerned about whether the fetus was alive."

Other jurors also noted a lack of concern for the fetus's life by Edelin and by some of the expert witnesses who testified for him. They remembered the doctors' saying that they did not routinely try to determine whether the fetus was alive before an abortion. They remembered the witness who said that it really did not matter whether the fetus was alive or dead. Some of them thought the scientists who spoke for Edelin did not show concern for human life.

And district attorney Flanagan had convinced them that the fetus was alive. In what may have been one of the most significant moves of the trial, Flanagan persuaded McGuire to allow him to introduce a photograph of the dead fetus in evidence, over the strong protests of the defense. The picture showed a normally formed fetus with fine, black curly hair. Its face was shriveled.

Flanagan reminded the jurors of that photograph during his closing statement. He addressed the jury vigorously, his voice filling the courtroom, his face flushed with emotion.

> Is this just a subject? Is this just a specimen? Look at the picture. Show it to anybody. What would they tell you it was? Use your common sense when you go to your jury deliberation room and humanize that. Are you speaking about a blob, a big bunch of mucus, or what are we talking about here? I respectfully submit we are talking about an independent human being that the Commonwealth of Massachusetts must protect as well as anybody else in this courtroom. . . .

The jurors reported that they were shaken by the photograph. "It looked like a baby," Liberty Ann Conlin told reporters, ". . . it definitely had an effect on me." Paul Holland commented, "The picture helped people draw their own conclusions. Everybody in the room made up their minds that the fetus was a person."—BARBARA J. CULLITON