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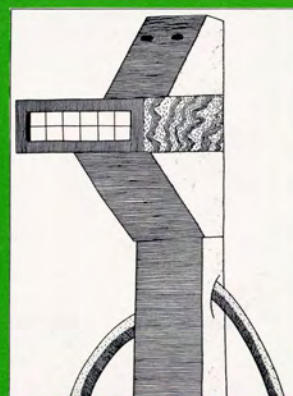
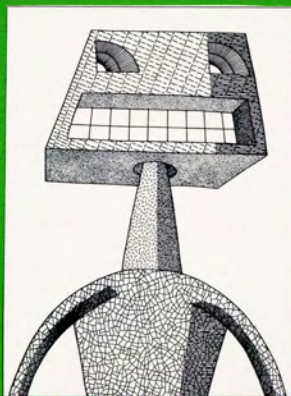
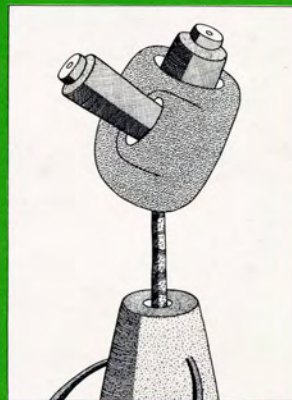
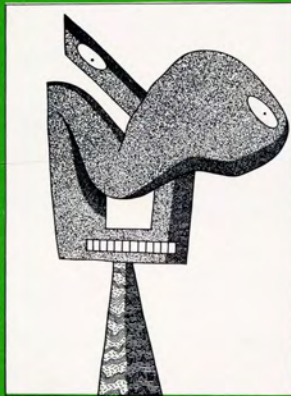
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THE CAMUT

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Kenneth A. Torgerson

Jury or Judge?

Juries have an ancient tradition but may not always serve justice

In a rather complicated commercial case I tried several years ago, after asking the prospective jury panel a series of general questions to elicit voluntarily any reason why any of them thought he could not decide this case, I began to ask each of them questions separately to determine individual suitability. While some seemed less suitable than others, the last person I questioned before exercising my challenges was a young man who had been attentive and interested in the proceedings. After discovering that he had never served as a juror before, and that he would not be inconvenienced if the trial took longer than the week which remained of his two-week jury service, I returned to the catch-all question, asked earlier of the whole panel, about his knowledge of any reasons why he could not listen to the evidence, keep an open mind, apply the law as given to him by the judge, and render a fair verdict. He responded that he thought he could, as long as he did not get contrary instructions from New York. His quiet and congenial answer immediately drew the attention of all in the courtroom. He earnestly explained that his mind was controlled by a brain machine in New York, and that sometimes this interfered with his Cleveland activities. The judge promptly excused this juror, who, but for a repetitious question, would not have revealed his aberration.

In an age of complexity, when most difficult decisions are left to experts, litigants are still willing to trust their fortunes, families, property and reputations in courts of law to the collective advice of six or more strangers picked virtually at random. Such groups, whether serving in civil or criminal cases, summoned by lot and selected for duty by lawyers, on the principle that their lack of training and knowledge makes them fair and impartial, daily decide significant matters when parties to a lawsuit cannot resolve their disputes.

Some court administrators and judges are keenly interested in the possibility of dispensing with juries or limiting their use. Without them, court dockets could be cleared more rapidly, criminal cases would not risk dismissal as a result of delayed trials, and two or three years would not elapse between the filing of a suit and its coming to trial.

Many judges and lawyers believe that juries are simply not competent to decide certain types of cases and that decisions should be made by judges alone or with the assistance of specially-appointed magistrates or referees (known as "masters" in the federal courts). On the other hand, a great many lawyers and some citizens view judges as ill-suited to decide certain types of cases by themselves. Although judicial competence is an occasional concern, distrust of a judge's

Kenneth A. Torgerson has been a trial lawyer since his graduation from Northwestern University Law School in 1966. During three years in the Army's Judge Advocate General's Corps, he first defended and later prosecuted military malefactors before courts-martial. After his tour of service, he joined the Cleveland law firm of Baker and Hostetler. Last year he became a member of the firm of Weston, Hurd, Fallon, Paisley, and Howley, specialists in civil litigation, and now has an office on the 25th floor of Terminal Tower. Since Torgerson finds that, as a trial lawyer, he spends a great deal of time worrying about juries and how to deal with their peculiarities, he has become interested in their origins and history and in current discussions about their limitations and future. This article is a review of these questions.

Born in Minneapolis and brought up in Stamford, Connecticut, he did his undergraduate studies at Dartmouth College. During the last six years he has been actively engaged in distance running and has competed in a dozen marathons, including those in Cleveland, Detroit, New York and most recently Boston. His wife, Katherine, is a writer for Penton IPC and a member of the Gamut Advisory Board. When he is not working or running (or tending children), he enjoys Cleveland Orchestra concerts.



personality, philosophy or politics, and biases is what makes a lawyer prefer a trial by jurors representing a cross-section of the population.

A jury is nothing more than a fact-finding and decision-making body, pressed into service when parties cannot find an acceptable resolution of a dispute or when a situation has occurred that cannot be resolved by private negotiation and compromise. The jurors' function is to listen to the evidence, isolate the relevant facts, and then, after the court has instructed them in the law by which they must determine the facts, render a binding verdict. Although a trial is a last resort, after all other means of resolution have failed, and although it may be viewed as an appropriate means of resolving a serious problem, the jury is rarely a satisfactory substitute for resolution outside the courtroom, particularly in issues requiring rigorous analysis or involving confusing or novel legal questions. This is especially obvious when one considers the time, expense, and unpredictability of trying a case before a jury.

There can be no doubt that the jury system is still the best protector of an accused's rights in criminal prosecutions, but the jury's historical role in many civil matters is more likely to impede than facilitate a rational decision. This essay will not advocate the elimination of the jury system but will rather note its evolution and its limitations and will argue that in civil cases it is often inappropriate, to the disservice of the litigants and the citizenry who believe there are no other options.

The Louis Stokes trial

The recent criminal trial of Representative Louis Stokes, who was charged with driving while intoxicated and other moving vehicle violations, presents an apt illustration of the danger of entrusting even a relatively straightforward determination of fact to a jury of well-intentioned strangers.

After midnight on March 25, 1983, Congressman Stokes was stopped by police not far from his home in Maryland for erratic driving. The police claimed he was driving on the wrong side of the road, had gone through a red light, and could not accurately perform the standard roadside sobriety test. The police desisted from charging him only because they believed that he was protected by Congressional immunity, which they said he invoked.

On returning to Cleveland after a Congressional trip to the Middle East, Stokes attended a rally and press conference following widespread publicity about the event, and



Jury wheel, placed in use in 1932, contained the names of citizens eligible for jury service, drawn at random by Clerks of the Courts. Behind blindfolded Justice is an inscription reading, "The great object of the law is to obtain a just verdict by the jury." On the other side, the inscription reads, "It is the privilege of every citizen to help administer the law."

publicly denied that he had been drinking or that he had invoked Congressional immunity. Interest in the original incident, Congressman Stokes's release without charge, and the rally itself stimulated so much news coverage that the prosecutors in Montgomery County, Maryland, preferred charges against him and he demanded a jury trial to which he was not absolutely entitled under Maryland law.

As a respected Congressional veteran, chairman of the House Ethics Committee, a prominent leader of the Black community and a man of undoubted propriety, Stokes was what most lawyers would have considered an ideal client. In opposition to his stature, credentials, reputation, intellect and personal charm there stood only the unimpressive charges of driving while intoxicated and the two moving violations. This episode, moreover, did not involve excessive speed, injuries to any person, or the presence of incongruous companions. Rather, it seemed to present Stokes as a tired and perhaps over-

worked servant of the people, who, according to his lawyer, had gone without sleep for 23 hours, on his way home prior to taking a fact-finding trip out of the country.

As is true in all criminal cases, the government (here the state of Maryland) had the burden of proving beyond a reasonable doubt that Representative Stokes had been intoxicated when stopped. No chemical or mechanical sobriety tests had been administered by the police and the Congressman had been released after thirty minutes' detention at police headquarters. The only evidence of intoxication produced by the state was the opinion of the two policemen, and this was based on the Congressman's red eyes, slurred speech, erratic driving and inability to recite the alphabet without error.

To counter this clearly subjective testimony of the policemen,¹ Stokes presented testimony and evidence, including that of a medical expert and family members, that he was under treatment with a medication that produced side effects resembling those of intoxication. At trial, one of the policemen retreated from his expected testimony that Stokes was intoxicated, and it seemed as if the jury had no choice but to acquit.

But when the jury convicted him of a lesser included offense (driving while under the influence of alcohol), credibility, not intoxication, was the issue. Given the conflicting evidence and the difficulty of proof, the state could hope but not expect to convict Stokes of intoxication. Stokes, however, had recklessly provided the government with the only weapon it really needed. At the Cleveland rally he had denied having anything to drink, but at trial a restaurant waitress testified that she served him a glass of white wine shortly before he was stopped by police. Although she supported the Congressman's claim of sobriety, his credibility was damaged. Stokes then acknowledged in his own testimony that he had had this drink, as well as an earlier one in his office, though he asserted that neither had had an intoxicating effect. The jury's confidence in him, which would have been the underlying reason for acquittal on such weak charges, was obviously shaken. Its doubts about his credibility led to the conviction on the lesser charge, probably the result of the jury's effort to balance the weakness of the evidence against him with the Congressman's failure to tell his story candidly from the beginning.

It seems unlikely that the State of Maryland would have pressed charges against Stokes if he had not made an issue of its policemen's conduct. Pressured by the news me-

dia, Stokes created a dispute which could be resolved only in a court of law. But he and his lawyers misjudged the jury's likely reaction when it was confronted, as they should have known it would be, with the two inconsistent versions of Stokes's alcoholic consumption. They gambled that the jury would be willing to disregard this inconsistency by credible evidence that an eminent public servant was not actually intoxicated, though he had consumed some eight ounces of wine. Both the Congressman and his counsel, an experienced criminal trial lawyer, believed that the jury would acquit, and therefore insisted on a jury trial when there was no ordinary provision for it. Other factors may have influenced the result, but the point of the matter is that Representative Stokes chose to have the matter decided by a jury of his peers, and discovered that a jury is less predictable than the voters who elected him. One juror, interviewed after the trial, said that because of Stokes's inconsistent statements, the jury believed the Congressman less than the policemen.

Tom Cousineau and the jury

In contrast to Stokes's trial, consider the recent and similar case of Tom Cousineau, an equally celebrated football player for the Cleveland Browns. On March 19, 1983, shortly after midnight, he drove his car out of a shopping center parking lot into a police cruiser after narrowly missing another passing vehicle. Cousineau refused to take a chemical sobriety test at the accident scene, and was unable to recite a complete alphabet, touch his nose with his index finger or walk a straight line. According to the police, he was polite but he smelled of alcohol. Charged with driving while intoxicated and other moving violations, Cousineau at his trial testified that he had consumed ten and a half beers in a five-hour period, but maintained that he had drunk nothing during the three hours preceding the accident and that he was not intoxicated. The local chief deputy coroner was called as an expert by the defense, and testified that a 26-year old male weighing 225 pounds could drink ten beers as claimed without being under the influence of alcohol. Despite contradictory expert evidence by the prosecution, the defense argued that the accident resulted from inadvertence and fatigue, not intoxication. After nine hours of deliberation, the original jury of six men and two women was deadlocked, with six favoring acquittal. After the judge granted a mistrial because of the jury deadlock, the case was re-tried by the prosecution. This time a jury

consisting of seven women and one man voted for acquittal.

No case is exactly like any other; even when the facts appear similar, there are differences which lead to different results. Cousineau told a consistent story and appeared regretful and concerned about the incident. He did not attack the police for their actions, but disagreed about the conclusions they drew from his appearance. Although it may seem curious that a jury would consider one man who had consumed eight ounces of wine to be under the influence of alcohol, and another who had consumed 126 ounces of beer and driven into a police car to be sober, such were the verdicts reached by the two separate juries. The reaction of juries is simply not subject to accurate prediction, even by those who have close and continuous relations with them.

Drawn from a given community and possessing certain qualifications (age, residence), groups of citizens are called to court to make themselves available to serve in specific cases or for certain periods of time. From that jury pool, a number are called into a courtroom to be interviewed by the litigants' lawyers, and by the judge, in order to determine their suitability to hear and decide a certain case. Once selected and sworn in, they are required to serve until they render a verdict and are discharged, even if the case exceeds the normal period of one or two weeks for which they have been summoned. Only the most extraordinary circumstances allow a sworn juror to leave before a case is concluded. Although the typical jury case is easily conducted in less than a week, modern litigation has propagated an increasing number of complex civil lawsuits which routinely exceed several weeks at trial, and the most notorious of which can take up to a year in court.

The juror's task

Assuming that a juror is selected and sworn to serve, he will listen to the evidence presented in turn by each side, the arguments of counsel on that evidence, and the judge's instructions about the relevant law. In this process, the jurors may or may not give credence to what they hear, and may accept or reject the arguments offered by the lawyers on both sides. That is, jurors determine the credibility of all witnesses and the applicability of whatever documentary evidence is submitted. Enlightened by the law and stimulated by the arguments of counsel, they retire at the end of the case to discuss the case privately and to render a verdict for or

against the party that has filed the lawsuit (i.e., to deliberate and render a verdict). Their decision includes a determination of the amount of damages, if any, awarded to the successful party.

In civil cases, in most courts, a specified number of jurors (often less than the entire panel) must agree in order to produce a valid verdict. Although the jury may request clarification on legal issues after its deliberations have begun, by sending written questions to the judge, normally neither evidence nor testimony may be reviewed, except for documentary exhibits admitted into evidence. Neither do most courts allow jurors to take notes during a trial, apparently fearing that idiosyncratic note-taking will confuse, protract or hinder the panel's deliberation. As a result, they must depend on their individual memories and the collective recall of the panel.

After receiving the jury's verdict, and permitting counsel for the parties to poll the individual jury members to confirm that the voting was as shown on the verdict form, the court discharges the jurors and reduces the verdict to an enforceable judgment. The jury's duties in the case are terminated upon discharge, although the jurors may be retained for further duty on other cases until the period for which they were called has expired. If a litigant successfully appeals, and the trial court's judgment is reversed and the case is ordered retried, then a different jury is chosen.

In most courts, the jury's deliberative process is protected from inquiry or challenge during and after deliberations, in order to insure a frank and open discussion among the jurors which will result in a verdict, and to protect the verdict from being overturned. Nevertheless, the trial judge in civil cases is permitted, upon motion of a party or on his own initiative, to set a jury verdict aside and either to order a new trial or to enter judgment in accord with his own determination.

Anglo-Saxon origins

The jury's current role as a fact-finder and decision-maker was imported into this country from England, where it had originated and evolved, supplemented by European fact-finding and decision-making machinery brought to England by the Normans after 1066.

When the Normans came to England, they introduced the use of "inquisition" in public administration, i.e., the discovery of facts by summoning under public authority a number of people most likely, as neighbors,

to know and tell the truth. Their answers to questions of fact were given under oath.

This inquisition bore a vague resemblance to the Anglo-Saxon system it encountered, in which the details of events such as age, death, ownership and sales transactions were established by witnesses under oath. Eadgar the Peaceful (reigned 957-975) formalized this procedure for certain commercial transactions, like sales, which were required to take place before previously-appointed witnesses. Under Eadgar's edict, twelve men were appointed in each small town or "hundred," two or more of whom were required to witness all commercial transactions in their bailiwick and to be available thereafter to prove them.²

In most pre-Norman cases, the conclusive evidence was the witnesses' oath, not the proof being offered. If the requisite number of witnesses gave oath in its prescribed form, the issue was decided. These witnesses were produced by the party tasked with establishing the issue. Typically, one witness or the interested party swore to the fact to be proved, while his fellows swore that the oath taken was true. No weighing of evidence or testimonial credibility took place.³

By the tenth century, pre-Norman England had adapted this system of oath-taking to trials of criminal conduct. Just as the Anglo-Saxons required from an originator of a suit the taking of an oath to prove his claim, the criminal defendant was sometimes allowed to clear himself merely by his own oath. The great medieval form of Anglo-Saxon trial, trial by wager (or trial by compurgation, as it was also called), was based on oath-taking by the accused, who swore with auxiliary oaths of others.⁴ If such oaths were forthcoming, the accused was deemed innocent. These oath-takers, often twelve in number, were an embryonic jury. The accused, under oath, would declare his guiltlessness, and his compurgators, whose number depended upon the reputation of the accused, would support him with oaths attesting to his innocence. These fellow-swearers, who might even be relatives of the accused, were not fact-finders; they swore merely to the truthfulness of another person's oath, or, as it was later refined, to their belief of its truth.

Compurgation was the chief method of trial in popular courts and in some actions in the king's courts. It was a great favorite in the towns, where it remained long after it had disappeared elsewhere. The right of a citizen to purge himself by oath was jealously guarded by the towns and preserved in charters from the Crown.⁵ Compurgation seems

to have been implicitly prohibited in criminal cases in the king's courts in the twelfth century and replaced with trial by the ordeal, at least for greater crimes.

The inquisition, previously mentioned as a Norman innovation, underwent an astonishing development in England. Where royal power was vigorous, as in England after William the Conqueror, safer and more direct ways were required to settle important matters of fact.⁶ The Crown's rule and revenues could not rest on the superstitious, one-sided method of oath-swearing which was preferred in the popular courts. The Crown alone could compel parties to abandon the old formal procedure of oath swearing, or enforce the attendance of community witnesses who made up an inquest.

Inquisition, ordeal, and duel

Until the reign of Henry II (1154-1189), inquisition was used irregularly as a means of determining legal controversies. Henry's predecessors referred land controversies to assemblies of neighborhood men (the "hundred court"), at which certain others, with knowledge of the matter to be proved, were required to swear under oath to the facts. The "hundred court" would then pass judgment upon their testimony. Gradually, the compelling proof of the verdict began to rest less on the oath itself than on the witnesses' knowledge of the fact to be established.

The first organized use of inquisition, as a sort of ancestor to the grand jury, took place under Henry II. Pursuant to one of Henry's more famous ordinances, twelve of the most lawful men in each hundred were impaneled to determine and give evidence of any criminal activity. Previously, inquisition had been granted merely as a matter of royal favor, but now it became established as obligatory in a certain class of cases. The introduction of this compulsory procedure replaced the customary method; the new procedure required that a man submit to the test of what a set of strangers, witnesses selected by a public officer, might decide. This innovation met resistance because it compelled great men to accept such judgment even when they offered to defend their cases by battle or ordeal. But as royal power asserted greater control over England, men anxious for the favor of the king were willing to subject themselves to his system of determining rights, and the system of trial by inquisition became firmly established.

Before proceeding further with the sagacious Henry's impact on jury development, two other interesting methods of

establishing fact should be mentioned. The first, trial by ordeal, is at least familiar to readers of novels set in medieval times. Under Anglo-Saxon rule, it was an alternative to trial by compurgation, perhaps when compurgators either could not be found or their testimony was contradictory, or when no decision could be reached by other means. The most common ordeals involved hot iron or cold water. In the former, the accused was required to carry a pound of hot iron a distance of nine feet. If his wounds healed after three days of bandaging, the accused was found innocent. In the latter ordeal, the accused was bound and allowed to float or sink in a body of water; buoyancy or lack of it determined innocence or guilt.⁷ Although Henry II fixed the ordeal as the mode of trial in major crimes, ordeals were outlawed by his successors in 1218, when England subscribed to the decree of the Fourth Lateran Council at Rome, which prohibited them.⁸

The Normans brought a second novelty to England, the judicial duel, or trial by battle, which became one of the chief methods for determining controversies in the royal courts. Some Englishmen rejected it as a French fashion.⁹ Its threat of injury and death made it disliked by nearly all.¹⁰ Initially, the disputants themselves fought to settle the issues; later, they were permitted to retain "champions" to fight for them.¹¹ Though the duel might end in mayhem or death, it was at least systematic. The plaintiff offered battle to uphold his position, and put forward a "champion" as a complaint-witness, who testified to his personal knowledge and stood ready to fight for his testimony.¹² Before the battle, the two champions swore to the truth of what they said. Although seldom invoked in subsequent centuries, the judicial duel remained the "constitutional mode of trial" in England until abolished by statute in 1819.¹³ It was primarily to displace this dangerous, costly and discredited method of proof that the first organized form of jury was introduced in Henry II's courts.

Although the Grand Assizes of Henry II (1166 and 1176) affirmed the use of trial by ordeal, these ordinances also provided a method of inquest in various kinds of civil cases, utilizing a fact-finding jury which soon pre-empted the resort to trial by battle and filled the void left by the prohibition of ordeals in 1218.

Ranulf de Glanville, Henry's last Chief Justiciar, possibly the author of England's first legal treatise and a chronicler of Henry's juridical accomplishments, reports:

The Grand Assize is a royal favor, granted to the

people by the goodness of the king, with the advice of the nobles. It so cares for the lives and estates of men that everyone may keep his lawful right and yet avoid the doubtful chance of the duel, and escape the last penalty, an unexpected and untimely death, or at least, the shame of enduring infamy in uttering the hateful and shameful word ('Craven') which sounds so basely in the mouth of the conquered. This institution springs from the greatest equity. Justice, which, after delays many and long, is scarcely ever found in the duel, is more easily and quickly reached by this proceeding. The Assize does not allow so many *essoins* (excuses for non-appearance) as the duel; thus labor is saved and the expense of the poor reduced. Moreover, by as much as the testimony of several credible witnesses outweighs in courts that of a single one, so much does this process rest on greater equity than the duel. For while the duel goes upon the testimony of one sworn person, this institution requires the oaths of at least twelve lawful men.¹⁴



Charles Laughton in *Witness for the Prosecution*.

The royally-mandated inquisitions, also called 'assizes' (assemblies, literally, people seated) or 'recognitions,' were initially compulsory or obtainable by right only in a limited number of cases.¹⁵ This primitive trial by jury could be obtained by special permission or by payment of a fee, and thus was sought by persons anxious to obtain Crown favor.¹⁶ The increase in new forms of civil action gave trial by jury great impetus.¹⁷

Under Henry's assizes, an inquest of four knights was convoked to choose twelve neighbors, also knights, who would determine, for example, who had the better right to ownership of a parcel of land. The twelve jurors were expected to have knowledge of the facts before declaring in court which person possessed the greater right to the property. These jurors were not *fact-finders* but *fact-knowers*. When the twelve were assembled, it was first determined, under oath, whether any of them were ignorant of

the facts. If so, he was rejected and another chosen. The knowledge required of them was their own perception, or what their fathers had told them, or what they could trust as their own knowledge. They could either declare that one party or the other had the greater right or merely set forth the facts and thus enable the justices to adjudicate it. If the twelve differed in their verdict, others were added until there were twelve who could agree. While they were a jury of peers, their prior knowledge made them less than impartial. To curb or deter partiality, they were subject to punishment for false swearing, for which they could forfeit their own property or be imprisoned for a year or more.¹⁸

Trial by battle or ordeal continued in criminal cases, although judges sometimes forced a jury on the accused. After the ordeal was prohibited, the jury became the preferred mode if the accused (because of age, physical condition or sex) was unsuited to the duel. But the necessity of obtaining the accused party's consent to the jury created difficulties until the late thirteenth century, when a statute was enacted which, though it recognized the doctrine of consent, provided for the imprisonment of those who refused the inquest when charged with breaking the king's laws.¹⁹

Magna Carta

Because it remained a royal prerogative, the jury was not firmly established until 1215, when dissident English nobles, outraged by King John's oppression, forced him to accede to the provisions of the Magna Carta. When Article 39 of the Magna Carta, which establishes a right to a lawful judgment of the "freeman's peers," yet does not expressly create the right to a jury trial, is read in connection with both Article 36, whose reference to a "writ of inquisition" has been interpreted as providing for a jury trial, because the inquests of the day included juries, and with other articles which refer to the various assizes which employed juries, the Magna Carta as a whole is viewed as implying such a right, if not actually establishing jury trials.²⁰ Although King John revoked the Magna Carta almost immediately, it was subsequently reaffirmed by Henry III and has been in force since 1225.

In 1765, William Blackstone, one of the great commentators of English common law, wrote:

The trial by jury, or the country, *per patriam*, is also that trial by the peers of every Englishman, which as the grand bulwark of his liberties, is secured to him by the great charter . . .²¹



Charles Laughton questioning defendant in *Witness for the Prosecution*.

A century and a half later, the United States Supreme Court held that the Magna Carta intended juries to consist of twelve members.²² More recently, the Supreme Court has tactfully retreated from the rule of twelve, reasoning that the history and language of the Sixth Amendment (which provides for trial by an impartial jury in criminal cases) reveals "no indication 'in the intent of the Framers' of an explicit decision to equate the constitutional and common law characteristics of the jury."²³ Justice Byron White said:

We conclude, in short, as we began: the fact that the jury at common law was composed of precisely 12 is a historical accident, unnecessary to effect the purposes of the jury system and wholly without significance "except to mystics."²⁴

One of the final steps in the evolution of the jury was the development of the idea of unanimous verdict. A majority verdict was accepted until 1346, shortly after which the decision for unanimity was made. Earlier, when an 11-1 decision was made, the unfortunate dissenter was fined or jailed for perjury, on the principle that he must have been wrong if the others were agreed. In other cases, additional jurors were seated until a group of twelve was found which could agree on a verdict. The search for unanimity appears to be an attempt to approximate the decisiveness of the trial by battle, whose outcome was believed to represent the judgment of God. Only a unanimous verdict, reflecting the united judgment of the community, could achieve this reliability.²⁵

With the requirement for unanimity came the development of jury independence. Civil and criminal juries had been distinguished by the provisions that civil juries were subject to 'attaint' (punishment for a wrong verdict, in the opinion of the judge), whereas criminal juries were not; by 1360, jurors were subject to attaint in all civil actions. Until the early 1500's, such verdicts could be overturned by a larger, specially selected and generally more elite "jury of attaint," convened to consider the accusation of "false ver-

dict" against the original jury. They were "af- forced," i.e., members were added until the jury of attain agreed. A verdict against a jury could result in the imprisonment of its members and confiscation of their property. Even after juries of attain were discredited, verdicts could still be rejected by a judge, who was empowered to fine or imprison recalcitrant jurors. No true jury trial was possible as long as attain was in force, because the power of the Crown could compel verdicts.

Attain came to an end in 1670. In *Bushel's Case*, William Penn and William Mead were charged with conducting an unlawful Quaker assembly in London. The jury refused to return a guilty verdict, although strongly pressed by the judge to do so, and acquitted the future founder of Pennsylvania, whereupon the jurors were immediately found guilty of attain, fined and ordered jailed until the fines were paid. One of the jurors, John Bushel, appealed. Chief Justice Sir John Vaughan freed the jurors and wrote a celebrated opinion enunciating the principle of jury independence, based upon the supposition that a jury is a body of impartial fact-finders who articulate the community's opinion.²⁶

Juries in America

In America, the colonists preserved this right to a jury in all their charters. In 1774, the First Continental Congress declared that "the respective colonies are entitled to the common law of England and more especially to the great and inestimable privilege of being tried by their peers of the vicinage, according to the course of that law."²⁷ The Declaration of Independence specifies as a usurpation by the King of England his "... depriving us in many cases, of the benefits of Trial by Jury."²⁸ Although jury trial was expressly invoked in the third article of the original Constitution, which provided that "the trial of all crimes, except in cases of Impeachment, shall be by Jury," concern over the document's failure to preserve the feature of the "vicinage," and the desire to preserve the right of jury trial in civil cases resulted in the jury trial provisions contained in the Bill of Rights, adopted in 1791 as the first ten amendments of the Constitution. These refer to jury trial in three places: the Fifth Amendment declares that no person can be charged "unless on a presentment or indictment of a grand jury"; the Sixth Amendment guarantees that persons so accused shall have the right to a trial "by an impartial jury of the State and district wherein the crime shall have been committed"; and the Seventh Amendment guarantees that "in

suits at common law (civil cases), where the value in controversy shall exceed twenty dollars, the right of jury trial shall be preserved, and no fact tried by a jury shall be otherwise re-examined in any court of the United States, than according to the rules of the common law."

Thus, not as originally formulated, but as an afterthought, the Constitution vests citizens of the United States with the right, both in civil and criminal cases, to a trial by a jury of peers drawn from the community. This Constitutional right is popularly viewed as absolute and equated with other fundamental principles of liberty and justice, the foundation of all our civil and political institutions. Actually, only criminal trials fall under the Constitutional guarantee. Initially, even this guarantee was applied only to crimes violating federal laws, and was only extended to state criminal laws by the Sixth and Fourteenth Amendments.

For civil trials, the Seventh Amendment's establishment of jury trials has been construed to apply only to civil trials in federal cases, and then only if the right to a jury trial was guaranteed in such cases or actions by the common law at the time the Seventh Amendment was enacted. In short, the Seventh Amendment's extension of jury trials to civil lawsuits in the federal courts is not viewed as limiting the power of state governments to abolish, modify or alter trial by jury in civil lawsuits in state courts.

The right to trial by jury is guaranteed to the citizens of the various states by their respective state constitutions, however; in Ohio this right was established by the Constitution of 1802. Still, if the Ohio common law in 1802 had not provided for jury trials in particular types of civil action, the Ohio Constitution would not confer it. Only a special statute could so. Under the common law's provisions, certain types of civil actions ("equitable matters") were subject only to court (i.e., judge) trials: injunctions, restraining orders and lawsuits requiring a defendant to perform an act (i.e., honor a contract of sale) are examples. These equitable matters continue to be tried only by judges. Thus, although a jury trial guarantee is generally preserved, by state constitutions, this right is not absolute, even in criminal cases. For instance, Congressman Stokes was not entitled to a jury trial under Maryland's "driving-while-intoxicated" criminal statute because Maryland does not guarantee jury trials for criminal offenses that are penalized by no more than six months' incarceration.

The 1765 commentaries of Sir William

Blackstone had great influence on the American colonies. Asserting the function and value of the jury system, Blackstone said:

But in settling and adjusting a question of fact, when intrusted to any single magistrate, partiality and injustice have an ample field to range in; either by boldly asserting that to be proved which is not so, or more artfully by suppressing some circumstances, stretching and warping others, and distinguishing away the remainder. Here, therefore, a competent number of sensible and upright jurymen, chosen by lot from among those of the middle rank, will be found the best investigators of truth, and the surest guardians of public justice. For the most powerful individual in the state will be cautious of committing any flagrant invasion of another's right when he knows that the fact of his oppression must be examined and decided by twelve indifferent men, not appointed until the hour of the trial; and that, when once the fact is ascertained, the law must of course redress it. This therefore preserves in the hands of the people that share, which they ought to have in the administration of public justice, and prevents the encroachments of the more powerful and wealthy citizens.²⁹

Justice White spoke similarly about jury trials in criminal actions:

A right to jury trial is granted to criminal defendants in order to prevent oppression by the Government. Those who wrote our constitutions knew from history and experience that it was necessary to protect against unfounded criminal charges brought to eliminate enemies and against judges too responsive to the voice of higher authority. The framers of the constitution strove to create an independent judiciary but insisted upon further protection against arbitrary action. Providing an accused with the right to be tried by a jury of his peers gave him an inestimable safeguard against the corrupt or overzealous prosecutor and against the compliant, biased or eccentric judge. If the defendant preferred the common-sense judgment of a jury to the more tutored but perhaps less sympathetic reaction of the single judge, he was to have it Fear of unchecked power, so typical of our State and Federal Governments in other respects, found expression in the criminal law in this insistence upon community participation in the determination of guilt or innocence.³⁰

Two features distinguish this Anglo-American concept of the jury system: first, the verdict should reflect the collective conscience of the community, and, second, jurors ought to be peers of those who seek a jury verdict.

G.K. Chesterton, describing his experiences as an English juror, defends the former: And the horrible thing about all legal officials, even the best, about all judges, magistrates, barristers, detectives and policemen is not that they are

wicked (some of them are good), not that they are stupid (several of them are quite intelligent), it is simply that they have got used to it Our civilization has decided, and very justly decided, that determining the guilt or innocence of men is a thing too important to be trusted to trained men. If it wishes for light upon that awful matter, it asks men who know no more law than I know, but who can feel things that I felt in the jury box. When it wants a library catalogued, or the solar systems discovered, or any trifle of that kind, it uses up its specialists. But when it wishes anything done which is really serious, it collects twelve of the ordinary men standing round. The same thing was done, if I remember right, by the founder of Christianity.³¹

The concept of community representation was discussed by Justice Murphy in these terms:

The American tradition of trial by jury, considered in connection with either criminal or civil proceedings, necessarily contemplates an impartial jury drawn from a cross-section of the community. . . . This does not mean, of course, that every jury must contain representatives of all the economic, social, religious, racial, political and geographical groups of the community; frequently such complete representation would be impossible. But it does mean that prospective jurors shall be selected without systematic and intentional exclusion of any of these groups.³²

Assembling a jury is an attempt to minimize individual biases by drawing a group of persons from the community and trusting that the combination of differing perspectives will create a balance and fulfill the Sixth Amendment's mandate of trial by an "impartial jury."

As set forth in the Magna Carta, the notion that a jury should be composed of one's peers originally meant that an accused had the right to be tried by members of his own class. The document referred to "freemen," not ordinary citizens but members of the nobility, those barons who forced the royal concessions from King John at Runnymede in 1215. In America, the peer concept has been defined more democratically. For example, in 1879 Justice Strong held that:

the very idea of a jury is a body of men composed of *peers* or *equals* of the person whose rights it is selected or summoned to determine; that is, of his neighbors, fellows, associates, persons having the same legal status in society as that which he holds.³³

The reference to a "body of men" may well disconcert a sensitized reader. Women have served in equal or greater numbers on juries for many years. This equity was established when the Supreme Court ruled in 1975 that women could not be categorically excluded from jury service or given automatic

exemptions on the basis of sex; such exclusion, the Supreme Court held, contravened its unambiguous declaration "that the American concept of a jury trial contemplates a jury drawn from a fair cross-section of the community," including women.³⁴ In keeping with the "cross-section" concept of jury representation, the Federal Jury Selection and Service Act, passed by Congress in 1968, outlawed special requirements for federal juries and endorsed random selection from lists of eligible jurors. Random selection is one obvious means for securing a cross-section; though it does not produce a proportionate representation of various segments constituting any given community, the Supreme Court has decided that "proportional class representation is not a constitutionally required factor."³⁵

Moreover, the states have always had the right to specify requirements for their jurors. Justice Stewart expressed this view in the following words:

The States remain free to confine the selection (of jurors) to citizens, to persons meeting specified qualifications of age and educational attainment, and to those possessing good intelligence, sound judgment and fair character.³⁶

Unlike state testing of "character" to determine the right to vote (a flagrantly discriminatory device), which Congress eliminated by passing the Voting Rights Act Amendment of 1970, the selection of jurors in state trials may still be subject to such tests.

Consider, then, the complex historical framework for the jury system, that ingenious device which some see as the bulwark of liberty. Except for the most socially reprehensible crimes, in response to which the sensibilities of a community would be irredeemably outraged and a verdict predetermined, trial by jury is the most certain means of obtaining the fairest possible determination of guilt or innocence in most criminal matters. Individual bias can best be avoided by entrusting the question of guilt or innocence to a group of twelve persons whose subjective views and experience will produce a collective decision that represents the conscience of the community in which the crime occurred.

The Spisak case

In addition, although evidence in a criminal case may conflict, the great majority of crimes are easy to understand, and the law which applies in such cases is less complex than in civil matters. Conflicts of evidence in criminal cases may hinge on the questions of whom to believe, who saw what, etc. . . . In

civil cases, the issues of law and fact are usually much subtler. Except for cases involving insanity pleas in which expert testimony tends to pre-empt the jury's function, most criminal cases produce little expert evidence that leads to an inevitable finding, thus permitting a jury to perform its job. Expert testimony in insanity plea cases, or the absence of it, frequently compels the verdict. A recent example is the trial of Frank G. Spisak, convicted of multiple murders on and around the Cleveland State University campus. Because of Spisak's disturbed sexual psychology and espousal of Nazi beliefs, his defense was based on the claim of legal insanity. Although his behavior, even apart from the admitted murder and murder attempts, was clearly established as bizarre, the defense presented no qualified expert to support Spisak's plea of insanity. When the prosecution called a court-appointed psychiatrist as a rebuttal witness, who testified to Spisak's legal sanity, the jury followed the only competent evidence on that issue, rejected the insanity defense and convicted.

Although many experts (coroners, forensic pathologists, ballistics experts, handwriting analysts, police) may be called to testify in criminal cases, their testimony, however impressive, does not determine guilt or innocence as a psychiatrist's testimony about sanity. And in those cases — probably the greater number — in which experts play less of a role, a jury is well-suited for its intended decision-making function.

Civil lawsuits, on the other hand, often call for expert decision-making, for difficult legal analysis involving complicated facts and often incomprehensible law, and for technical or specialized knowledge which the typical jury does not possess, incompletely understands, and, under most circumstances, cannot apply. The jurors' experience and judgment, representative of the community from which they are chosen and most helpful in criminal cases, is of dubious value in complex civil disputes. There are many civil disputes — personal injury cases, cases of defamation or fraud, and assault and battery cases — which lend themselves to the jury's collective judgment. Nevertheless, no matter how conscientiously a panel of jurors approaches the decision-making process, too often it finds itself at sea in more complicated civil disputes, where serious intention is no substitute for the knowledge, training and specialized analytical skills required.

In recent years, the federal courts have faced the issue of whether or not there is a "complexity" exception to the Seventh

Amendment right to a jury trial in civil cases. Entitlement to a jury trial in a federal civil lawsuit has always turned on whether the lawsuit could be termed an equitable or a legal action. If the case fell within equity jurisdiction, then there was no right to jury trial under the Seventh Amendment, since the latter only preserved the right to jury trial in all suits "at common law," i.e., legal actions. Equity jurisdiction involves cases or disputes where there is no adequate remedy at law, i.e., where an award of money damages alone will not fully compensate the litigant, and where specialized relief can be best set by a court. These equity cases were reserved for a judge's decision alone. On the basis of this distinction, not all civil cases come within the Seventh Amendment's guarantee of jury trials.

In a 1970 decision, the United States Supreme Court extended the right of jury trial to stockholder-derivative lawsuits (previously recognized as actions in equity), at least with respect to those issues which would entitle the corporation, were it suing, to a jury. The court held that "the Seventh Amendment question depends on the nature of the issue to be tried rather than the character of the overall action."³⁷ This statement was clarified by a footnote which identified as a factor in its analysis "the practical abilities and limitations of juries." From this footnote a number of complex civil lawsuits have arisen, in which one litigant sought to strike the other's jury demand, arguing that such complicated cases were beyond "the practical abilities and limitations of juries" as sanctioned by the Supreme Court, even if the action or issue was one for which juries were customarily permitted. This line of reasoning led to the argument that a jury's inability to handle complex cases means that "there is no adequate remedy at law," and, therefore, that complex cases should be decided by a judge.

Because the Supreme Court has not further stated that a jury's capacity to hear a complex case is a relevant factor in determining whether to grant jury trial, various federal courts have considered the question; at least half have found, on the basis of the "Ross test," that there is a "complexity exception" to the Seventh Amendment's right of jury trial. The efforts of courts and litigants have done much to establish such an exception and underscore the widespread perception that juries indeed have practical limitations. A 1978 California federal district court case is an example of a jury's inability to serve as a fact-finder in a complicated case. The jury was deadlocked in deliberations for 19 days

after a five-month trial in a complex anti-trust case; the judge, as a part of his decision, entered a directed verdict for the defendant, thus terminating the lawsuit, in the absence of an appeal, and ordered that no jury be used in the event of retrial. When the judge asked the jury foreman whether this type of case should be heard by a jury, he responded: "If you can find a jury that's both a computer technician, a lawyer, an economist, knows all about that stuff, yes I think you could have a qualified jury, but we don't know anything about that."³⁸

But a litigant may well prefer that even a complex civil case be submitted to a jury, if there is reason to believe that the judge or judges in the case would be unsuitable. Whether elected or appointed, not all judges are equally well-suited to the decision-making office they fill. Lack of judicial competence is a routine accusation, made especially by those who have received adverse decisions. But a litigant's demand for a jury is often made on the basis of an incompatibility with a judge's temperament or a supposition that he lacks knowledge or experience, commitment or interest.



Jury-room scenes from *Twelve Angry Men*.

In Ohio, state trial judges are required to schedule criminal trials speedily, within 90 days, beyond which time the indictments or offenses are subject to dismissal. Dismissal of criminal charges for lack of a speedy trial invariably causes public outrage. Judges therefore prefer to clear their criminal dockets, thus delaying the processing of civil lawsuits. Although demanding a jury in a civil case will not insure that the case will be tried sooner, it will at least provide some hedge against the trial judge's lack of time for and, hence, interest in the case, whenever it is tried.

To be sure, some trial lawyers would never elect to try a lawsuit to a judge alone, but this attitude appears to be determined more by an attorney's particular trial practice and clientele than by the belief that trial to a judge leads to oppression (notwithstanding G.K. Chesterton's *bon mot*: "I would trust twelve ordinary men, but I cannot trust one ordinary man"). A judge trial may lead to a bad result, but a jury cannot be expected to treat all types of cases in a way productive of a just decision. Impartiality alone is no guarantee of wisdom, and lack of understanding is almost a certain invitation to a bad finding in a case which requires knowledge and careful analysis. Suitability is therefore a crucial consideration in determining whether a jury should be entrusted with a legal dispute.

Another consideration is expense. In Ohio, the cost of juries is assessed against the taxpayers and not the litigants.³⁹ But, because jury trials typically take more time, a litigant who pays for his lawyer's services, usually at an hourly rate, will also incur greater legal expense in a jury trial. In a judge trial, the jury selection process is omitted, and questions of law raised by objections or motions during a trial which must be resolved out of a jury's hearing, can be determined straightaway in the courtroom without interruption. Even the testimony may not take as long to elicit; if the judge is properly prepared as to the facts and the law of the case, less preparatory questioning is necessary, and less lawyer's time is needed to insure that the evidence is both understandable and persuasive to all eight jurors, as opposed to one judge. Moreover, the fact that eight fewer people need accommodation (not the least of which is the collection of the group in the morning and after lunch) means that a judge trial proceeds more expeditiously. In fact, while few judges are willing to keep a jury past 4:30 p.m., many are themselves prepared to work later hours, to finish testimony in progress or complete a case. Finally, the typical trial lawyer simply works more efficiently and quickly when try-

ing a case to a judge, if not because the judge expects or requires it, then because the lawyer can concentrate entirely on the case's presentation without the necessity of monitoring a jury's reactions or having to present more evidence than he needs, in order to persuade even the most intractable or densest jurors. In a 1964 article, Professor Harry Kalven concluded that trials before judges take forty percent less time than jury trials.⁴⁰ For many reasons jury trials take longer and are therefore more expensive.⁴¹

One recurring criticism of juries is that they act capriciously, and allow sympathy and passion to override a rational analysis of the facts and a reasonable application of the law. Thus, even in cases which basically are suitable to their presumed competence and acknowledged virtues, some believe that jurors are overly susceptible to sympathy, that they ignore rules of law or disregard instructions given to them by the judge, and that they are directly manipulated by clever lawyers, the media and other, less tangible influences brought with them into the courtroom, ranging from undiscovered bias to mistaken or eccentric beliefs which occlude their judgments. For example, the August, 1983, \$500,000 defamation and discrimination verdict awarded to ex-anchorwoman Christine Craft, who had sued the Kansas City television station which dismissed her, was reversed three months later by the trial judge, who concluded that the damage award was excessive, the product of the jurors' passions and prejudices, influenced by the pervasive publicity accorded the case. Punitive damage lawsuits intended to penalize the defendant for malicious conduct (as opposed to simple negligence), which allow a plaintiff to recover money damages exceeding those which will compensate for the actual injury, often provide an opportunity for jury capriciousness. In such lawsuits, defendants are "sent messages" by jurors, who return million-dollar punitive damage awards permitted by law but unrelated to the actual loss incurred by the plaintiff. These awards are occasionally provoked by outrage against an economic system of which the defendants appear to be a part.

Jury selection

If a litigant is lucky, peculiar beliefs, biases and passions are discovered during jury selection (the "voir dire"), when lawyers interview each prospective juror, under the discretionary control of the court, in order to secure a fair and impartial jury. In state courts, trial judges permit a fairly extensive

and often detailed inquiry into the potential bias, predisposition and knowledge of each juror. Specific, often personal, questions are allowed in order to uncover unsuitability.

During the voir dire, the lawyer for each party is allowed to remove, or "challenge," prospective jurors according to either of two principles: for cause, if the lawyer can satisfy the judge that a legal basis for removal exists (i.e., affinity with or relation to a party, etc.), and peremptorily, for no reason, but limited in number (three in Ohio state courts in civil cases, four in criminal, six in capital).

As mentioned previously, early English jurors were selected to serve on inquests in part for their knowledge. When knowledge was lacking, the jurors were either replaced or "informed," to enable them to make a more enlightened determination. An amusing lampoon of this process appears in *The Merchant and the Friar* (1837), which purports to set forth details about 13th-century life. The English Friar explains certain conventions to an Italian merchant as he shows the traveler about London. They are at Guildhall, as the trial of one of the alleged robbers of the king's treasury in 1303 is beginning:

"Sheriff, is your inquest in court?" said the mayor. "Yes, my lord," replied the sheriff; "and I am happy to say it will be an excellent jury for the Crown. I myself have picked and chosen every man on the panel . . . There is not a man whom I have not examined carefully . . . All the jurors are acquainted with (the prisoner) . . . I should ill have discharged my duty if I had allowed my bailiff to summon the jury at haphazard . . . The least informed of them have taken great pains to go up and down in every hole and corner of Westminster — they and their wives — and to learn all they could hear concerning his past and present life and conversation. Never had any culprit a better chance of having a fair trial."⁴²

Under our system, the voir dire screens those randomly called citizens who appear ill-suited to making a reasoned determination, or whose knowledge, experience, or relationship to the case indicates that they would allow such background to outweigh the proof and law of the case as presented in trial. The sometimes strange nature of this screening process is part of every trial lawyer's experience.

In a case involving a plaintiff's personal injury lawsuit against two defendants, and a separate lawyer for each defendant, an attractive woman in her late 30's was seated in the prospective jury panel. The jury roster of prospective jurors only identified the woman as the wife of a minister with a church in the east-side suburbs. The judge had com-

menced the voir dire by asking the panel the usual questions about their backgrounds. Although previously introduced to the panel, none of the three lawyers had begun to ask questions. When the judge asked the group collectively whether there was any reason why anyone could not hear this accident case, the woman raised her hand and stated bluntly that she could not. In explaining the reason for her response, the woman pointed at one defendant's lawyer, a distinguished, white-haired member of the bar, who had said little, and had taken a second seat at the trial table behind me. As we turned to look at him, the woman said succinctly, "He is giving me real bad vibrations." She was excused before we could determine whether she was simply anxious to avoid jury duty or really believed that his transmissions would taint her judgment.

In the federal courts, only the judge usually performs the voir dire of the prospective jurors. Counsel for the parties must submit written questions in advance, which the judge may or may not ask. Without a personal interrogation, my brain-controlled juror might not have been discovered in the federal system, although the lady with vibrations seemed bent on making her reaction known. Although the voir dire is a device for discovering and excluding irrational jurors, it is not foolproof, and in a case before an overly-restrictive judge who limits the number or kinds of questions, or in the federal system, the risk of seating unsuitable jurors is correspondingly greater.

While peculiar forms of thinking and, occasionally, prejudice can be discovered while the jury is being selected, most prospective jurors routinely deny that they possess any prejudice and assert that they can render a fair and impartial verdict. Most people apparently believe that they can conceal conscious and unconscious influences that would make a trial lawyer speedily remove them from the panel. One juror, in a case I tried for a corporate construction defendant, failed to reveal for two trial days that her brother was employed in the same high-risk occupation as the injured plaintiff, and belonged to the same union. That information, had it been known before the trial commenced, would have enabled me to pick a different juror; I would have excused her "peremptorily," on the basis that she was likely to be sympathetic to the plight of the plaintiff, and could be exposed to information from her brother which had no relevance to the facts of the case. Instead, the woman was excused during the trial and an alternate

juror, picked to insure against this sort of contingency, was seated. The excused juror may have believed that her indirect relationship to the case would not influence her decision, but even the risk of unconscious sympathy justified her exclusion.

In another case, a former secretary with my firm, who had not worked there for about a year, appeared on the prospective jury panel. When the judge asked preliminary questions, she did not identify the relationship, even after I had been introduced to the panel and my firm named, nor did she mention it while the plaintiff's attorney questioned the panel. I did not know the circumstances of her leaving my firm or her present attitude toward it, but it seemed likely that she would be helpful to my case. Reluctantly, when I finished asking the panel some general questions, I turned to her and said that she might not remember me, but she looked very familiar: Had she by any chance worked for my firm? After she acknowledged that relationship, I established that we had never worked together, had worked in different locations and in different legal specialties, and that, in her mind, the distant connection would not influence her decision as a juror. The judge, however, was not as sanguine about the effect of this prior connection, and, after a few cursory follow-up questions, announced that he would excuse her, which I silently lamented but for which I publicly thanked him. As it turned out, I could have used her good will in the case, but the point is that all litigants, as well as the court, had the right to know of her relationship to the case, which I had the obligation to disclose. Her past employment might not have resulted in intentional bias, but it might, unless revealed, have contaminated the verdict.

For each instance of potential bias that is discovered, however, there are others that are not. In some jurisdictions, jury lists are distributed in advance of trials (despite Blackstone's emphasis on juries appointed at the time of trial) and independent services exist which interview prospective jurors prior to their attendance at trial and provide juror profiles which lawyers may use in the *voir dire*. Sociologists and psychologists may also be consulted in advance of trial, to define expected attitudes that jurors may hold, and to formulate questions to uncover these attitudes during jury selection. Because of the great expense involved, these sophisticated methods are used irregularly, except in cases of great consequence. In Ohio, lawyers first learn about the prospective jurors when the jury lists (which indicate only marital status,

residence and employment) are distributed as the panel is brought into the courtroom. A lawyer needs either great trust in human nature or great confidence in his own ability to quickly sense and choose those jurors best suited to hear a client's case. But the pre-selection of juries by specialized services has been severely criticized on moral and ethical grounds and its legality questioned.

"Sympathetic" juries

While bias and prejudice may never be apparent in a jury's verdict, jury sympathy all too often prevails in damage verdicts which either exceed the amount sought by plaintiffs or are totally disproportionate. Several years ago, for a modest example, I tried a case in which the jury verdict appeared to reflect either sympathy or misunderstanding. The plaintiff, who had been "rear-ended" by an employee of my client's, a trucking company, sought property damages and miscellaneous expenses. No personal injury was involved. He contended that his almost-new vehicle was a total loss after the accident. The car had been towed and garaged; although the plaintiff had obtained an estimate for repair, he had not had the car repaired, but had rented one from the garageman, who stored his damaged vehicle for 12 months. Reimbursement for both storage and rental was also sought. Under the Ohio rule of law that allows an owner to testify to the loss of value of his own automobile, the plaintiff said in court that he had paid \$7,500 for the car before the accident and that it was worth nothing after the accident. He also testified that he paid \$50 to have it towed and that he had incurred \$750 in garage fees and \$1,250 in rental fees. I established during cross-examination that within a month of the accident he had received an estimate for repair of \$3,500. Another Ohio rule of law pertaining to damages provides that in a total loss situation, a vehicle owner may recover the amount of his vehicle loss less salvage value, but is not entitled to recover consequential damages for storage of the worthless car or rental of a replacement; in such an instance, the law reasons, a new car ought to be purchased and the worthless car junked, not stored.

I argued to the jury that if it believed the plaintiff's own testimony of total loss, he was only entitled to \$7,500 plus the \$50 towing fee. If it doubted the plaintiff's total loss testimony and thought he could have had the car repaired for \$3,500, as his estimate showed, then the plaintiff was entitled only to that amount, plus the \$50 towing fee, and no more than the \$1,250 for car rental and the

\$750 for storage, or a total amount of \$5,550.⁴³

After the jury had heard the arguments and the court instructed it on both points of law set forth above, the jury returned a verdict for the plaintiff of \$9,500, one which was theoretically impossible under the law; either the jurors did not understand the legal limitation on damages, or they had chosen to ignore it, perhaps because the plaintiff was a sympathetic fellow. From the viewpoint of the defendant's insurance company, which paid the judgment, such a result in a relatively simple case is proof that jurors can be capricious and are sometimes dangerous.

Consider the increase of million-dollar verdicts in pathetic and gruesome cases of personal injury and death, where the award often exceeds the measurable damages so greatly that one suspects either sympathy or vindictiveness has determined the verdict. Today, the expense of medical treatment is computed by experts, who can estimate such costs for the statistical lifetime of a plaintiff so badly injured that permanent care would be necessary; it is possible to calculate the future income of a spouse or parent lost in a case of wrongful death, to achieve an accurate approximation of dollar loss; yet the human loss involved, the often horrible nature of the injury all tend to predispose a jury to forget or ignore that it must first find the defendant at fault or liable for the injury before it can determine the amount of damages. But sympathy is generally impervious to reason, which is why plaintiff's lawyers love juries and defense lawyers become cynical about human nature.

Excessive verdicts can also be directed at defendants who appear to represent the established power structure of a society: large corporations, utilities, upper-middle-class men wearing well-tailored suits, etc. Popular resentments, the chance to get even, and the belief that such defendants can afford to pay and therefore *should* pay, sometimes override the fact-finding function of the jury, which is obligated to determine fault and provable damages before an award can be made. Even more diffuse in their effect on a jury's decisions are the changes in public attitudes brought on by the expansion of the government into private life. Many now believe that institutions should be more accountable for everyone's well-being than was thought in the past, and that individuals have correspondingly less personal responsibility than preceding American generations. With this belief comes the expectation that those same entities which control or dominate our lives have greater responsibility to answer for

damage or injury when it occurs. One measure of this factor is that jury awards tend to be greater in large urban areas than in less populated regions, where the largesse of government is not as marked and a more conservative mentality about responsibility exists.

Competence of civil juries

Much has been written about the irrationality and weaknesses of jury decisions, in what the Supreme Court has called a long debate. Although the debate has been intense, with powerful voices on either side, most of the controversy has centered on the jury in civil cases. But, as Justice White notes:

... some of the severest critics of civil juries acknowledge that the arguments for criminal juries are much stronger . . . In addition, at the heart of the dispute have been express or implicit assertions that juries are incapable of adequately understanding evidence or determining issues of fact, and that they are unpredictable, quixotic, and little better than a roll of the dice. Yet, the most recent and exhaustive study of the jury in criminal cases concluded that jurors do understand the evidence and come to sound conclusions in most of the cases presented to them and that when juries differ with the result at which the judge would have arrived, it is usually because they are serving some of the very purposes for which they were created and for which they are now employed.⁴⁴

The study referred to is based on surveys conducted by Harry Kalven and Hans Zeisel and reported in *The American Jury*.⁴⁵ Two hundred trial judges completed detailed questionnaires about almost 8,000 criminal and civil cases in order to help determine in each type of case the percentage of agreement between the juries' actual decisions and what the judge would have decided had he heard the case alone.

The conclusion of this study is that the judges agreed with the jury's findings in 80% of the criminal and personal injury civil cases.⁴⁶ Where they disagreed (i.e., in 20% of the cases), the jury was more lenient, being inclined to acquit in criminal cases six times as often as judges. This comports with the common belief that a criminal defendant fares better in front of a jury, although the study's authors point out that the results may reflect the fact that the defendant may waive a jury in the state courts, and will choose it when he thinks it will be favorable to him.⁴⁷

The agreement/disagreement ratio is a surprise in civil cases, where one might expect greater disagreement between judge and jury.⁴⁸ In civil cases the judge disagrees with the jury in favor of the plaintiff about as often as the jury disagrees with the judge.

This study, however, also shows that while the level of agreement in personal injury decisions in civil cases is about the same as in criminal cases, juries more frequently give higher damage awards, by about twenty percent.⁴⁹

One of the authors of this study concluded that the similar percentages of agreement in civil and criminal cases between judges and juries suggest that the jury's sense of equity, not its competence, produces the disagreement.⁵⁰ This conclusion was buttressed when the judges who participated were asked to rank the degree of difficulty of each case; the authors found that even in those cases designated as difficult, the degree of disagreement remained about the same. The juries, it appears from this study, understand well enough for their purposes, and their intellectual incompetence has been vastly exaggerated.

Two points might be made about the conclusions drawn from the study. First, the civil cases dealt with personal injuries, which are generally easier to understand and, like criminal cases, call for a kind of community or collective judgment in order to characterize behavior. If it is true that personal injury actions, like criminal cases, generally involve less-complicated concepts and require the kind of judgment which makes best use of the jury's sense of equity, then it may not be entirely accurate to conclude that the same type of judgment would be of value in more complicated civil cases.

Second, the authors' main premise is that, because the argument against jury competence is really an argument in favor of bench trials, jury competence is demonstrated by the existence of agreement: i.e., the study takes for granted judges' competence.

While it is true that trial by judge is the relevant and obvious alternative to trial by jury, it does not seem logical to assert the competence of A by comparing it to B without demonstrating the competence of B. Further studies might determine the extent to which the judges' decisions were themselves competent determinations. Although the cited data reflected only jury trials and judges' commentary about them, examining the cases which were actually appealed, and affirmed or reversed, might shed additional light on the relation of juries to judges.

Finally, the studies note that juries tend to give higher damage awards, a circumstance which suggests that either sympathy or the jury's sense of equity consistently overrides the kind of judgment expected of professional jurists. While personal injury

actions permit the jury to determine what damages will fairly compensate the plaintiff for injury, pain and suffering (beyond such calculable damages as medical and hospital bills, loss of earnings, etc.), the consistent use of this discretion to award higher damages implies that, as a group, juries display a generosity which may not always be appropriate.

A different study, conducted by Rita Simon and reported in *The Jury and the Defense of Insanity*, involved some 2,000 jurors, actually summoned for duty, who were asked to listen to five recorded trials of actual cases: three civil lawsuits, and two criminal cases involving insanity defenses.⁵¹ The various juries then deliberated and reached verdicts based on what they heard. The deliberations were themselves recorded, and the study focused principally upon jury room dynamics. Ms. Simon reports that "the most consistent theme that emerged from listening to the deliberations was the seriousness with which the jurors approached their job and the extent to which they were concerned that the verdict they reached was consistent with the spirit of the law and with the facts of the case."⁵²

In the criminal cases, some juries were asked to apply one rule of law relating to insanity, while other juries were asked to apply a different rule of law, one generally perceived in legal circles as more favorable to the defendant. None of the juries utilizing the more stringent rule acquitted the defendant, while five panels out of the twenty-six that used the more lenient rule concluded that the accused was not guilty by reason of insanity.⁵³ These experimental studies indicate that, within certain limitations, juries do understand the effects of certain kinds of law, and work hard to apply that knowledge to the facts of the case.

In her subsequent publication, Ms. Simon refers to more recent experimental jury studies which conclude that "there is a significant use of legally irrelevant criteria in the jury decision making process . . . such as the victim's or the defendant's attractiveness and that such factors produce a variance in the jury's verdict."⁵⁴ Yet another study, conducted by Dale Broeder and based upon 5000 hours of interviews with jurors after their deliberations, leads him to conclude that the jurors' previous experiences and lifestyles significantly affect the decision-making process. Broeder notes that jurors tend to ignore relevant legal rules, and sometimes rely instead on their views of a plaintiff's family situation.⁵⁵

None of these studies, however, deals with the problems posed by juries deciding

cases which contain a vast array of complex facts and issues such that the litigants themselves must resort to computerized document-retrieval systems, the assistance of paralegals, and phalanxes of lawyers. The federal court system has developed a *Manual for Complex Litigation*, to provide the federal district judge with the means to maintain and exercise firm and fair control of the parties, and to simplify and facilitate trials. The *Federal Rules of Evidence* allows the evidence presented at trial to be simplified by means of summaries of voluminous materials. Under the *Federal Rules of Civil Procedure*, the trial judge can appoint a master to assist the jury, although such masters have traditionally assisted the judge in bench trials, either by substituting for him or by disposing of preliminary matters and motions.

No matter how refined or synthesized by procedural devices or the efforts of the court and counsel, the issues and facts which take weeks and months for attorneys to present are not easily absorbed by jurors. In such cases, both sides would be wise to agree to waive their right to a jury trial.

Where does this leave the litigant? Those who distrust the arbitrary or oppressive judgment of one man will prefer the cross-section amalgam provided by a jury; those who fear the capricious, irrational or unsophisticated opinions of a jury may prefer a judge known to lack these particular deficiencies. Those who fear both and have the opportunity to avoid both would do well to consider the wisest course in most disputes, settlement, resolving their disputes without the intervention of either judge or jury.

NOTES

¹In *The Best Defense* (New York: Random House, 1982), p. xxi, Alan M. Dershowitz, the noted criminal constitutional lawyer and Harvard Law School professor, postulates that almost all police lie under oath in order to convict defendants.

²Lloyd E. Moore, *The Jury, Tool of Kings, Palladium of Liberty* (Cincinnati: W.H. Anderson, 1973), p. 28.

³James B. Thayer, "The Older Modes of Trial," *Harvard Law Review*, 5 (1891), pp. 45, 51.

⁴*Ibid.*, p. 58.

⁵*Ibid.*, p. 59

⁶James B. Thayer, "The Jury and Its Development," *Harvard Law Review*, 5 (1892), pp. 249-250.

⁷Moore, p. 30

⁸Thayer, "Modes," p. 64.

⁹*Ibid.*, p. 66

¹⁰*Ibid.*, p. 67.

¹¹*Ibid.*, p. 68.

¹²*Ibid.*

¹³*Ibid.*, p. 70

¹⁴*Ibid.*, p. 66

¹⁵Thayer, "Jury," pp. 255-59.

¹⁶*Ibid.*

¹⁷*Ibid.*, p. 264.

¹⁸*Ibid.*, p. 261

¹⁹*Ibid.*, pp. 266-69

²⁰Moore, pp. 50-52

²¹*Ibid.*, p. 49

²²*Thompson v. Utah*, 170 U.S. 343, 344 (U.S. Supreme Ct. 1898).

²³*Williams v. Florida*, 344 U.S. 78, 99 (U.S. Supreme Ct. 1970).

²⁴*Ibid.*, p. 102.

²⁵Although American courts initially adopted the concept of unanimous verdicts, more recent Supreme Court decisions have validated split verdicts in criminal cases (*Apodaca v. Oregon*, 406 U.S. 404, 1972), and also in civil cases, in order to avoid "hung juries." Ohio state courts presently require a unanimous panel of twelve to convict in felony cases. In civil proceedings, a three-fourths consensus is required in state and municipal courts.

²⁶Thayer, "Jury," pp. 382-84.

²⁷Henry Steele Commager, *Documents of American History* (New York: Appleton-Century-Crofts, 1949), p. 83.

²⁸Commager, p. 101.

²⁹Sir William Blackstone, *The Sovereignty of the Law: Selections from Blackstone's "Commentaries on the Laws of England,"* Gareth Jones, ed. (Toronto: Univ. of Toronto, 1973), p. 179.

³⁰*Duncan v. Louisiana*, 391 U.S. 155-156 (U.S. Supreme Ct. 1968).

³¹G.K. Chesterton, *Tremendous Trifles*, 12th ed. (New York: Sheed and Ward, 1930), p. 55.

³²*Thiel v. Southern Pacific Co.*, 328 U.S. 217, 220 (U.S. Supreme Ct. 1946).

³³*Strauder v. West Virginia*, 100 U.S. 303, 308 (U.S. Supreme Ct. 1879).

³⁴Taylor v. Louisiana, 419 U.S. 522, 527 (U.S. Supreme Ct. 1975).

³⁵Hoyt v. Florida, 368 U.S. 57, 69 (U.S. Supreme Ct. 1961).

³⁶Carter v. Jury Commission, 396 U.S. 320, 332 (U.S. Supreme Ct. 1970).

³⁷Ross v. Bernhard, 396 U.S. 531, 538 (U.S. Supreme Ct. 1970).

³⁸ILC Peripherals v. IBM, 458 F. Supp. 423, 447 (N.D. California 1978).

³⁹Taxpayers bear the expense of juries in county courts, although certain municipal courts require a deposit to cover the costs of summoning a jury, despite a statutory prohibition against charging such a cost as a deposit in excess of a minimal amount. (Ohio Revised Code Section 1901.26C.)

⁴⁰Harry Kalven, "Dignity of the Civil Jury," *Virginia Law Review*, 50 (1964), pp. 1055, 1059.

⁴¹In most personal injury trials (almost always tried to a jury), the plaintiff's lawyer works under a contingent fee contract; he receives a stipulated percentage of any monetary recovery. In the absence of recovery the plaintiff's attorney receives nothing except reimbursement for his expenses. Although the length of trial therefore does not affect the plaintiff's legal fees, the defendant's attorney is typically paid an hourly rate, so a longer trial results in greater legal expense to the defendant.

⁴²Thayer, "Jury," p. 298.

⁴³The plaintiff himself inconsistently brought in a mechanic witness who testified that six months after the accident he could have repaired the car for \$4500, but that it would take him two months because parts were not available.

⁴⁴Duncan v. Louisiana, 391 U.S. 145, 156-157 (U.S. Supreme Ct. 1968).

⁴⁵Harry Kalven and Hans Zeisel, *The American Jury* (Chicago: Univ. of Chicago, 1971).

⁴⁶80% agreement in criminal cases and 79% in civil cases, omitting hung juries.

⁴⁷Kalven and Zeisel, p. 65.

⁴⁸In the 21% of those civil cases in which judge and jury disagreed, the jury found for the plaintiff 11% of the time; the judge would have found for the plaintiff 10% of the time.

⁴⁹Kalven, "Dignity," pp. 1055, 1065. ⁵⁰Ibid.

⁵¹Rita J. Simon, *The Jury and the Defense of Insanity* (Boston: Little, Brown, 1967).

⁵²Rita J. Simon, *The Jury: Its Role in American Society* (Lexington, Mass.: Lexington Books, 1980), p. 52.

⁵³Simon, *American Society*, p. 54. ⁵⁴Ibid., p. 53.

⁵⁵Dale W. Broeder, "Plaintiff's Family Status as Affecting Juror Behavior: Some Alternative Insights," *Journal of Public Law*, 14 (1965), pp. 131-143.

Conversation with Robert Creeley

During the week of June 27-July 1, 1983, Robert Creeley was Visiting Poet in the Department of English at Cleveland State University. He taught creative writing classes, gave a public reading of his poems, and led the CSU Poetry Center's monthly Forum, a poetry workshop open to the public. On Thursday evening, June 30, the editors of The Gamut recorded a conversation with him, which is transcribed here with such editing as is necessary to reduce spontaneous talk to print.

*Robert Creeley, a major figure in American poetry since World War II, was associated early in his career with the Black Mountain group of poets, particularly Charles Olson. A native of Massachusetts, he attended Harvard College and lived from 1952 to 1954 on the Spanish island of Majorca. His best-known collection, *For Love*, was first published by Charles Scribner's Sons in 1962. Other books by Creeley include *The Island* (Scribner's 1963), *Words* (Scribner's 1967), *The Charm* (Four Seasons Foundation, 1969), *Pieces* (Scribner's 1969), *Listen* (Black Sparrow Press, 1973), and *The Collected Poems of Robert Creeley 1945-1975* (University of California Press, 1982). Since 1966 he has been a member of the faculty at the State University of New York at Buffalo, where he is now David Gray Professor of Poetry and Letters.*

*Participating in this conversation were editors Leonard Trawick and Louis Milic, Barton Friedman, and Cynthia Edelberg (author of Robert Creeley's *Poetry: A Critical Introduction*); these interlocutors, all members of the CSU English Department, are referred to collectively as GAMUT.*

GAMUT: What have you been working on lately?

CREELEY: I've been doing this calendar with Toothpaste Press. Literally a calendar — all the dates, you know, so you figure someone's going to read it for at least a month.

GAMUT: Really? A calendar? What do you do with it?

CREELEY: Just throw it away when the year's over.

GAMUT: No, I mean what sort of thing do you write for a calendar?

CREELEY: The original proposal was, would I have interest in trying to do a series of poems related specifically to the months. It was a very interesting problem. When I was younger I would have been spooked by the thought — how could anything be left to write about the months? But it's always the same dilemma: what do you think? What are the possibilities? The sense of seasons and months is fascinating, and the sense of what can one write that has in any respect a common access — not that I'm writing Hallmark greeting cards. (Though I would really, in a sense, be pleased if I could. We need something like that occasion to write more than "I love you, Mother." Something that would have more bite or action.) Anyhow I wrote a sequence of poems called "A Calendar," with a poem for each month, and that will be published as a text with a sort of classic calendar — you know, the poem runs along the right side and the dates are centered underneath, with a place for notes

GAMUT: So you were given a certain format?

CREELEY: Yes; of course it wasn't an exact number of words, but the poems couldn't be too long because there wouldn't be room. So they varied from say 12 to 14 lines, some of them a little longer. But they are thinking of months. And curiously they move through a variety of places. Some are written in Buffalo, where I am living. The whole



economy of writing was curious — I began writing in the summer, so January and February were far away. April was the first one I actually wrote. I remember the beginning of *The Canterbury Tales* from a high-school teacher fresh out of NYU with a classic New York accent. I'll never forget his reading the prologue, "Whan that April with his . . ." and so forth. So that particular poem begins with, effectively, a translation of those opening lines, using its words but shifting them, and then goes on to improvise a continuity from that initial quatrain.

Then I back-tracked to March; we were traveling up in New England, and we had to go through Concord; I really wanted to write the July one in Concord — "By the rude bridge that arched the flood . . ." All that bustle. And the Concord is such a modest, lovely river.

Then we went to North Carolina — that was August — that was terrific. Then to Maine, to visit my sister. The end of the summer: she lives in a converted barn — she's a potter — and you would look out to the end of a field, and in the early morning fog the trees would seem to be floating in the air, and then it would gradually clear; so there was the sense of her garden — "goldenrod, marigold, yarrow, tansy" — it was time for them to come to the end of their particular physical lives — it was sort of haunting . . .

Anyway, the whole thing came together. It could have been a book, but I like the idea of its being a calendar, the sense of casualness of its occasion physically — you can scribble on it — it's not sacrosanct, it's not a pretentious demand upon your attention. I remember a lawyer I was having dinner with in Buffalo, and he began quoting this William Carlos Williams poem to me; "I didn't even know you read poetry," I said, and he said, "Oh, I read it on the bus." You know how they put poems up on the advertising placards . . .

GAMUT: You've written some of those too, haven't you? Are you doing any more of them?

CREELEY: That thing has sadly fallen apart lately. I did one more, with Cristo contributing the images, which were photographs of that installation he had in Colorado, his canopy across the canyon. The poem is called "Here." That was a couple of years ago.

GAMUT: We did the same thing here in Cleveland a few years ago: the Poets' League of Greater Cleveland "Poetry in Transit" series.

CREELEY: I thought it was an excellent idea. My lawyer friend demonstrated what the fact of it was. Literally riding downtown on the bus every morning for a week or so, he learned the poem without the least intention.

GAMUT: If only all learning of literature came that easy! I wonder if you could talk a little about that subject — how you feel about the relation of teaching to being a writer?

CREELEY: Buffalo is interesting in that way. I would certainly approve of an M.A. in creative writing and creative writing classes, but I would hesitate to make it such a codified degree program. For one thing, I've felt dubious about anything that dissuaded potential writers from putting the university's context to its best use — you know, reading, writing, and learning in the undifferentiated sense. I mean literally learning how to research, acquiring a competent literacy, learning the resources and range of information that literature proposes, languages, adjacent areas of information.

In other words, as far as writing itself is concerned, the peer group alone could probably support some basic community of writers,



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as it did, for example, for me at Harvard. I had creative writing courses there; they weren't quite sneeringly proposed, but almost. I was at Harvard at a time when they were probably better than they ever have been or will be again, when the English A program brought in this group of extraordinary people and also gave them some chance to teach — quote — creative writing. Like Delmore Schwartz and John Berryman and Wallace Stegner and so on. So I took writing courses with Delmore Schwartz, and they were terrific. But the English Department didn't take Delmore Schwartz seriously in the least: he was not a "real teacher," you see. And it was no pleasure, probably, for him, to have that limitation. But it was paradoxically of use to the students to recognize that Murray Kempton taught the *serious* writing course, which was really "how to write for *The New Yorker*." I don't mean to denigrate him, but that was really what he was teaching: how to write in a professional, semi-journalistic disposition — whereas these other people were teaching rather esoteric information, which wasn't really thought to be that important, despite the fact that presumably people were being taught to read poetry. Who they thought *wrote* it, I'll never know!

I also thought giving A's, B's, C's, and D's was a specious practice in this case. I remember subsequently asking editors at Scribner's what their sense of writing programs was: how much did they think a background in creative writing contributed to the abilities of the writers they did or didn't publish? And they said, not at all. It isn't that people don't learn to write in a writing course. Jack Hawkes at Harvard wrote *The Cannibal* in Albert Guerard's class. Amazing! No one ever wrote a novel in our class — but Jack did. Not only did he write it, but it was published.

GAMUT: He was probably going to do it anyway, whether he was in the class or not.

CREELEY: Sure. And what was more characteristic of where he was at was the fact that he was one of the principal editors of *Wake* [an avant garde magazine published by Harvard students]. Yes, he was just going to do it. And it was far more important that various persons in that faculty cluster or even more particularly the peer group could recognize and support and be a part of the company that he needed to talk to. I learned far more as a young writer by talking to Jack and other friends than from formal instruction.

GAMUT: That would be an advantage of creative writing classes — it's a mechanism for getting young writers together.

CREELEY: Not after yesterday afternoon! [when Creeley had taught a creative writing class at Cleveland State University]. With all due respect, the dilemma is that now there is a third term — the teacher. The teacher is in a situation with, say, six to twenty people, and they all want attention at the same time. So there becomes an inexorable pecking order. There's always hustling to get in a position of authority in the class, which isn't really the point.

For example, in the class here yesterday, a few of the people were objecting strenuously to the fact that another member of the class had written what they felt were downer poems. I was attracted to them, because they had this absolutely intense — inchoate in some respects, but nonetheless effective — emotional ground. One really felt affected by what one was reading. Now I didn't know *why* this was the case, I didn't know what was the solution, I just knew this was very powerful emotional language. So I was saying that I so felt,

and some of the others were demanding, "But what do you think it means?" I said I didn't *know* what it meant; I didn't think the writer knew what it meant, that's why it had that peculiar power: it doesn't have a label that lets you say "we now know it" so you can get some DDT, and *PSSHT* — it's gone. That's why it's powerful — you don't understand it yet. It's a completely legitimate possibility. But they didn't like that at all. The poem had to have a point, and it should be "uplifting." So what could I say? I could claim "I'm an elder and a professional and I don't like the way you're talking to me," but no, it turned into a weird emotional conflict as to who was right or wrong. In the class yesterday, or any such class, people have signed up for *Creative Writing*. But how can you teach anything so individual to a whole class?

Learning to write has a lot to do with measuring yourself against a model and making generalizations from that. There's an old-time interview with Hemingway in the *New Yorker* in which he used that rather aggressive metaphoric language of his — "I got into the ring with Dostoevsky and I knocked him out and then I got into the ring with Stendhal and I knocked him out . . ." I can dig that. I know what he was talking about: he had these absolute imaginations of great writers and measured himself against their capacities and said, "Okay, I can do what they do and even do it better." So it isn't that they are therefore to be dumped, but "I now have confidence."

But [in a class] like yesterday, I don't even know what they respect, what they would die for. Who do they think is great? What have they read (Pound's insistent question)? Do they read? And they want me to tell them whether their poems are good, whatever that means.

GAMUT: Yet if you're teaching a creative writing course in a school or college, you have to do that when you turn in your grade sheet at the end of the term.

CREELEY: Yes, and why should I penalize them in some didactic way for the fact that I don't like their mode of writing? I'm very suspicious of an abstract judgment, however particular. It's kind of phony. In a writing class if someone writes something you're really impressed by and you give them an A, and then they take that A as a sign of their authority into the common world, it proves to be useless. Does it get them published, does it get them any particular agency? Unhappily, the art doesn't allow for the qualifications that would be possible in the situation of musicians, where you could say, "Okay, you do know how to play the cello." Of course you can't do it with musical composition either.

GAMUT: What about non-academic workshops, like the one you're to be guest moderator at tomorrow. Do you have reservations about them too?

CREELEY: I will certainly be pleased to be there, and I'll be interested, but again . . . I can make judgments that quickly, but I wonder if they will even want to hear them. Years ago, I remember, when we were living in Majorca — myself and my dear first wife — I had been living out of the country, laboriously trying to be a writer, for about three years, and was writing a lot, prose and poetry, and my company had been basically English writers who lived there. Well, into this peculiarly English milieu came Edward Dahlberg. He was an absolutely implacable adversary of practically any opinion you



Dahlberg said,
 "When your bones
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would offer. I had introduced him to [Robert] Graves, and Graves was trying to help him find an apartment. He arrived one morning just at breakfast; Graves offered him something to eat, but he said he'd already eaten, so Graves said they would be finished soon, and handed him a copy of *Punch*, saying, I guess rather hopefully, because he had a piece in it, "Perhaps you'd like to look at a copy of this while you're waiting." Edward told me, "I simply threw it down on the table and walked out. It's bad enough to write for such a magazine, but to expect another man to read it . . .!"

He was like that. I thought he was great. In any case, he arrived in our household, this extraordinarily difficult man. He asked to see some of what I was writing, so I gave him what I had. He shuffled through it, and then, zing zing zing, he began to talk about it. He began to say things like, "Bob, why do you try so hard to say so little?" I was delighted, I was fascinated by what he was saying, it didn't bother me. But my wife Ann began to get very irritated; so at one point she said, "How dare you come into our house and presume to tell my husband about his writing as though you knew it — I watched you, you positively didn't read more than five or six lines." Dahlberg said, "Madam, I am a professional. I don't *have* to read more than five or six lines. You, young woman, may have a cheap degree and think that you know what literature is. I am a writer!" This whole argument escalated to the final statement of Edward's, "When your bones are moldering dust, mine will be carried through the streets by the cheering multitudes."

Well, what if I were to go into a writing workshop and say, "I don't have to read more than three words of this to know . . ."? It would be true. I *don't* have to read more than three words. I *am* a professional. I know exactly what Edward was talking about — thirty years later. But who wants to hear that in a creative writing course? They say "How do I make it better" I say, "Well, you begin by reading," right? [Charles] Olson would have a lovely answer to that: "I don't want to see anything you write until it's published." This is not some awful hostility to the young, but it's my sense that it's not a self-bettering situation, it's not learning to be successful . . . Another friend, John Chamberlain, had a wife who was a classic jazz singer, and he used to say of her, "She said she wanted to be a singer, but what she really wanted to be was famous."

GAMUT: That's a common weakness of beginning writers.

CREELEY: I remember a woman came up to me at a workshop and said, "I don't know who you are, I don't know what you've written, but just tell me, *how can I get published?*"

They see someone in my situation and they think, "How come he gets to have all this? — He's not that good, man . . . Who reads that garbage? How come he gets it and we don't?" So in a workshop there's already at times an impacted resentment.

GAMUT: I'm sure that, as you say, workshops can be destructive, when there is a guest moderator such as a famous poet whose judgments are taken too seriously. I remember when John Hollander was here a few years ago. The landscape was strewn with wounded egos.

CREELEY: He's a very bright man. But with a man like John, his habits of judgment would be so necessarily involved with his whole imagination of poetry that if you had some other habit of writing, that John's particular habits didn't value or find interesting, you'd be stuck. If you came in and you were, say, Gregory Corso or somebody



else not to his interests, you'd be stuck. That's the limitation. Writers can't be partial, they can't be democratic.

GAMUT: Can they be critics at the same time?

CREELEY: Sure. Some of them are brilliant critics. Writing itself is a critical act.

GAMUT: Of course. But as a poet leading a workshop, you come with your own presuppositions, and you can only judge from that position. But then who should a beginning writer go to for help, if not to another writer?

CREELEY: The people who are probably the most appropriate for teaching writing are not writers but *readers* — and I don't mean just people who "know what they want to read." I think of an instance of such a person — Warren Tallman, long-time teacher at University of British Columbia. Warren produced, in effect, I think, a whole generation of extraordinary Canadian writers by his ability to read what they wrote, and to read it with such a comfortable, unaggressive, but explicit critical attention, that he was able to locate them in their own abilities without some tacit competitive attitude on his part.

GAMUT: A kind of nurturing editor.

CREELEY: Yes. He was a great nurturing editor. In fact, an active editor would be far more appropriate as a teacher of writing than a writer. Because I think that a writer does not, in a paradoxical sense, know what he or she is doing in that accessible way. It's like Williams saying "I was the thing itself." — I don't have the ability to see, apart from being there. I remember [Robert] Duncan saying that he tends to produce endless variations of himself (which was not a particular success from his point of view).

Then there are other friends, like Denise [Levertov], who was consistently attracted to persons she felt were nice, responsible, politically active, socially involved people. She'd say, "Here's a very good poem, it's written by a really terrific person" — and then she'd read this perfectly *awful* poem. I'd say, how could you do it? One time she forbade Allen Ginsberg — who was a very old friend — to come to her house as long as he was in the company of Peter Orlovsky, because Peter wrote those awful self-disclosing things about awful sexual habits and dirty little-boy businesses, and she didn't want any such person in her house. That's fine as a household rule, but as a writer that's not the point. Peter is frankly, in my estimation, a far more interesting poet than some other very nice people Denise has championed.

GAMUT: Most editors seem to become editors because they want to make the world to their prescription. But a great editor is one who can help a writer be himself.

CREELEY: Donald Allen was a great editor. I first met him when he was at New Directions, and then subsequently at Grove. I can think of two very different writers whom he helped remarkably. He effectively saw John Rechy through the whole writing of *City of Night*, which I think is a remarkable book. And he was immensely useful to [Charles] Olson, not just in terms of publishing, but in terms of steadying and clarification.

Warren [Tallman] was also a great teacher, especially with the young, with people ages 18 to 22. He could spot their strengths. I remember one time years ago when Donald Allen and I were editing some collection of short stories; Don had sent me some short stories

A writer does not . . . know what he or she is doing in that accessible way.

by Brautigan, who he said was a very interesting writer. I was in some existential emotional crunch and I decided this was far too frivolous for me — *Trout Fishing in America*, who needed it? But Warren also said “No, no, that’s a very interesting book.” So two readers of real order recognized the good writing, but I was guilty of just what I’ve been complaining of. I was not prepared to deal with — I just didn’t want to hear that at that time. And, God, I was absolutely wrong. Because I was a writer. I just didn’t want to read that because I was writing something else. At one time I wasn’t able to read many writers that I absolutely respect these days — I couldn’t read Wordsworth at 24 . . . Whitman I couldn’t read (why doesn’t he get to the point, I would say).

GAMUT: Is that anthology of Allen’s [*The New American Poetry 1945-1960*] still available? It was such an important document.

CREELEY: Sadly, I don’t think so. I don’t think there was any awful critical disposition; it sold remarkably for years. It became a historical document, and that was its dear value. Grove kept asking Don to revise it, but he was very bored, I think, with the idea of going back and requalifying it; so he used the help of George Butterick, a very bright, extraordinary editor — of Olson, primarily. But the revision, *The Post-Moderns*, is really a bummer book . . . it now covers twenty years, the back business is gone, the particularity and intensity of the writer. You can’t represent twenty years of a writer’s work with a few poems. There’s no way.

I like George, and I think he has done heroic work with Olson. The journal he kept going for ten issues was the most magnificent posthumous publication I’ve ever seen. It’s a model of what you can do. Compared to the *Williams Newsletter* —! That’s nothing! Williams has had such awful luck with this kind of use of his work. In Europe there’s hardly an accessible text of Williams available in English. Penguin bought up all the rights to his work for this particular area of distribution, and now is sitting on it. They first published Charles Tomlinson’s collection [of Williams] — which is fine, a solid book — but it hasn’t done well. So now they’ve decided against publishing any of the primary stuff.

GAMUT: We were talking earlier about the split between the tremendous influence of Williams on other writers and the generally disappointing criticism that has been written on him. What does it mean when a writer fails to attract good critics?

CREELEY: That’s a good question. Kerouac was another. I remember one time being on a radio program on literary interests over CBC in Vancouver with Warren and this old-time Scot, who kept asking, “What is this man doing, he’s breaking all the rules!” The old guy kept saying, “He’s breaking the rules.” Then one time Warren asked him, “What are these rules Kerouac is breaking?” — “Oh, I don’t know just what they are, but we do know they exist!”

GAMUT: Williams broke all the rules too.

CREELEY: And again, they don’t know what they are, but they know they exist. Now Williams is dead, and it’s his hundredth birthday, and they still don’t know what he was doing. Gertrude Stein is another. How many college courses teach Gertrude Stein? At least it’s good to know she’s still being read; she must be — she’s still in print, and the publishers don’t keep books in print out of sentiment, that’s for damn sure.

GAMUT: If we can return to the question of teaching and workshops

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for a minute — isn't a workshop helpful because it gives a sense of community? Isn't it good to have a sense that you're writing *for* somebody? You can't just write in a vacuum.

CREELEY: Think of Stendhal: "I am writing for the people of 1935." Or Melville: *Moby-Dick* sells six copies in the United States. It's false information if one is taught that there is necessarily a response. It isn't as if one is writing in a contest with an imagined audience. There may well be *no* audience. I have had literally that situation. I had friends, but, paradoxically, those closest to you, you may love, but how can you trust them? — they are so much the same person. People say "You poets just read each other's works." It's true. So how can we argue that this is getting a serious public response to what we are doing?

GAMUT: It doesn't have to be the *whole* public, just . . .

CREELEY: But how does one find that community? What happens when you leave school? I remember a conversation in a bar one time with a guy, a successful insurance agent . . . we were both in our thirties; he said how much he missed the fact that there was no one to say he got an A, B, or C. There was no one to grade his life! But there's no one to grade a writer. Who was around to tell Joyce that he was terrific?

GAMUT: Maybe one of the virtues of non-academic workshops, where the poetry doesn't have to be graded, is that they provide a sympathetic audience for writers to try out new works.

CREELEY: I had that lovely occasion one time in my life, living in Bolinas, California — the only time I've really had it. This town had a fantastic number of poets living in it. We determined that we would meet as a company at various households and read whatever the members of our dear group had been writing. It was terrific. I would certainly recommend something like that. And there were no grades.

GAMUT: It would seem that writers really need to feel that they are writing *for* someone. Otherwise why write?

CREELEY: I remember one time in the company of Carl Rakosi — we were both at Naropa and were going to be teaching workshops — and we were talking about the situation of creative writing. He said, "The *last* thing in the world a writer needs is encouragement." That could be misunderstood entirely, of course. What he meant was, writers aren't writing because they are waiting for someone to say "yes," they're writing because they have no alternative. Writing is absolutely as necessary as voiding your bowels. It's something that you've really got to do. I've heard that from such a diversity of writers. Winfield Townley Scott would put it, don't write if you don't have to. Aspiring writers think it is something it would be nice to do. It's not nice. Sometimes it's awful to do. I was just reading a book about William Carlos Williams: sadly, one of Williams's most dependable resources for his writing was his disgust, his physical revulsion, at what he was encountering. He hated it, and when he hated it enough, he wrote about it. Think of some of the other great writers in the same situation: Sterne, for example, and Swift; Celine, Kafka. These are not pleasant human states, and no one would envy the person possessed by them; but the point is, the sense that writing necessarily pertains to a social accommodation is just absurd. What do you do with writers who may write for years with no public acknowledgment at all — Emily Dickinson, for example?



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GAMUT: Then there is that other audience — the people who buy the books.

CREELEY: Of course I think writers should get all the money they can! Someone asked Ed Dorn one time if he ever wrote for money. He said "Everything I write is for money, I just don't get paid." It's leading writers up the garden path if one proposes for them simply the convenience of their own social needs.

If I had the possibility of training writers I would train them in resources to make a living and I would train them in language resources. I wouldn't really want to *read* their writing! Their writing will take care of itself, if and as it's a real need. I would certainly be pleased to read it, but I wouldn't read it in order to say "this is a good poem" or "this is a bad poem." I would say, "Much more to the point is what feeds you as a writer, both physically, in terms of a job, or what gives you an engagement with the various resources of information that may serve your particular need as a writer." Very often in a creative writing workshop I say to people, "What have you read?" Because they don't read anything but the very narrow spectrum of contemporary literature. You ask them "What languages do you know?" What other information do they have? "Oh, no," they say, "I'm a writer, I don't need to read anything." I've even had them tell me they didn't read because they feared they'd be influenced. I don't think those people need to be encouraged!

GAMUT: Do you think a writer ought to pick some way to make a living that is not so physically draining as teaching, for example? If so, why are so many writers teachers?

CREELEY: Simply because it's an employment that is accessible to them. They are also dishwashers, work in gas stations, they're cops or doctors or lawyers or whatever. What's fascinating to me is the incredible diversity of occupations that writers characteristically have, and they also come from such a diversity of social and environmental backgrounds.

But with writers, the blessing is that, if they can read, they have this incredible resource of models. Unlike painters or musicians, writers have this fantastic accessible record of performance in writing. And even if that fails, they have all the verbal material that's floating in their heads every moment they open their ears to hear it. If you're a painter and you live in Des Moines, for instance, that's tough, because you lose a lot of the habit and authority, the increment of possibilities by not being able to see so many actual paintings . . .

GAMUT: But for a writer . . .

CREELEY: But if you're a writer, you can read it. I can sit here or anywhere in the world and read Shakespeare.

Back to the question of teaching, for me it was an extraordinarily useful bridge into some activity in which I could feel I was of some social use. My father was a doctor — he died when I was four — and my mother was the classic public health nurse. So I grew up in a household where there was a sense of social responsibility for being useful. That is hard for a writer, because he or she may feel at times that one is, sadly, of no use to the community in which one lives. I think of an NET program I saw recently about Russian refugees in this country. One of them, a very bright, pleasant man, was saying, "You know, here we have the freedom to publish anything we write — but no one cares! No one reads it! In Russia at least everything I wrote was read — they examined it endlessly!"

GAMUT: That's why Marcuse said this is the most successful totalitarian state in the world!

CREELEY: Yes, here everything is permitted and nothing matters. When I've talked to writers of other countries, they have found Americans both as persons as well as writers extraordinarily isolated from the communal body; very singular. Whereas if you wrote in Germany, even in Hitler's era, you still thought you spoke for all the German people; you felt an absolute responsibility to and relation with all of Germany.

GAMUT: You're talking now about poets?

CREELEY: Yes, poets primarily.

GAMUT: There are more poets now than there have ever been, and there are fewer readers of poetry. Just look at the sales of poetry books. Publishers practically have to give them away.

CREELEY: I found to my chagrin in England and France last summer that books of poems by Jacques Roubaud, for instance, or Michel Deguy or any elder that has any authority now, sell maybe five hundred of six hundred copies. And in England the situation is even more bleak. On the other hand, the audiences for poetry readings in public performance were as solid as they have ever been.

GAMUT: Probably fewer people still read.

CREELEY: The texts are somehow enslaving and limiting in relation to the experience, and audiences had rather be witnesses to the person and his or her disposition, than to the text, which is only the printed word.

GAMUT: We were talking a while ago about Williams's bad luck with publishers. Writers do seem to be at the mercy of the *business* of bookselling.

CREELEY: I saw Moses Asch on television this morning — the Today show or something like that; that was great, hearing him talk about Folkways. Literally every record he's produced is still in print. Delicious man! Would that more publishers were like that! He was incredible. He figured if he could sell a thousand records of any particular issue then he'd make money. So that satisfied his economic needs, and he keeps every damn record in print. He's not sentimental about it, he's practical. Unhappily, in publishing — you'd think it would be possible, but paradoxically it's not.

GAMUT: Very few publishers are independent any more. They've all been bought up by somebody like CBS or Exxon.

CREELEY: I remember a wild story about a writer who'd been published by Random House, but got so disgruntled with the situation there that he laboriously bought out all the copyrights to his works and went to Knopf. And the day that he signed his contract with Knopf, it was bought by Random House.

GAMUT: Both of them now owned, no doubt, by U.S. Steel . . .!

CREELEY: I was associated for a long time — and still am — with Scribner's

GAMUT: They are still independent. Mr. Scribner is still the owner.

CREELEY: Yes, the elder Scribner, especially, is really an extraordinarily sweet man. They keep three of my books in print — that's sort of interesting: *For Love, Pieces*, and *Selected Poems*. I'm now in the Hudson River Classics, though I'm still alive. When California put out my *Collected Poems* I remember writing to the permissions editor and asking her what the situation was — was there the possibility of *Selected Poems* going out of print, because somebody else was interested in do-

Writers of other countries . . . have found Americans extraordinarily isolated . . .



**There are no
problems in
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are, you stop.**

ing an edition; and I got this incredible letter from the son, Charles Scribner III, saying "We're not *about* to give up *Selected Poems* . . . it's going to *stay* in print . . ." So now I'm happily back on Scribner's list, where I started.

GAMUT: You observed a minute ago that, though book sales seem to be declining, audiences for live readings are holding up. How do you feel about giving poetry readings as a way of supporting yourself?

CREELEY: That feels comfortable for me. It's just that, in my case, anyway, there are some poems that are addressed so intimately that they are not really meant to be read before a large audience. It just isn't the occasion. Emily Dickinson would be aghast at standing in front of a thousand people and reading her poems. It just would be inappropriate, if not difficult.

On the other hand, it is like music; there is an absolute performance situation in poetry, always. The performance could be another person reading it, or hearing it read. I personally enjoy the sense of hearing poems. To me, the reason for a poem's printing is that it can be translated into sounds and heard, so that the occasion of reading it would be no more untoward than, say, playing the violin from a particular musical score. And it's reassuring to me, not just in the sense that people like my poem or don't like it, but that they can *hear* it as a coherence, and I can get some equivalence of my own experience of what is there to be heard. It's a feedback that is very useful to me. It can obviously get glib. But some of my old friends like Allen Ginsberg or Lawrence Ferlinghetti (who I think is a great public poet) have the ability to involve a large number of people in a content and in an emotional state that they can produce with their writing, which seems to me remarkable and significant.

I don't like the idea of poetry as a closet activity, of something you get in a very small space emotionally to read, as though it didn't have a larger public significance. That's absurd. Poetry to me has always been an oral, a physically heard art.

GAMUT: Do you imagine your audience as one you're reading to rather than one that's reading you on a page?

CREELEY: When I'm writing, you mean? Oh . . . sometimes, but I'm *hearing what I'm writing*, that's what I'm primarily doing. I'm not exactly talking to myself, but I'm hearing what I'm writing, and I know how I feel about it. It's like driving, where consciousness is submerged but still operant. When something "is coming," as they say, to be said, there is remarkably little consciousness of what one is doing. It's like swimming or skiing or driving — if you start thinking about what you're doing, you lose coherence. The point is, you wouldn't be doing any of this if you didn't know how; but as soon as you say "look, Ma, I'm dancing," you lose all facility. Presumably you're trained sufficiently to do it; and then you're able to write without that overriding consciousness of what you're doing. You're entirely *in* what you're doing. And it's insistently true that you write in that circumstance without recognizing how much time has passed; it could be one hour or one week. Time stops — or the consciousness of its operation. And it's a very potent place to be: everything's accessible, everything's moving, everything's adequate to the demands upon it, and there's no problem. Paradoxically, there are no problems in writing. When there are, you stop.

GAMUT: When you were reading today, there was obviously a very good rapport with the audience.

CREELEY: Yes, I feel very at home. People ask me, how can you say all of those intimate things about yourself and your wife in front of all those people? Don't you feel that you're telling secrets? But I say, it isn't that these things are altered or submerged by this way of saying them. No, that's no problem for me, that's not part of the difficulty.

GAMUT: Anne Sexton gave what was probably her last public reading here at Cleveland State; for her it was obviously a very painful experience. But then there are some poets who positively revel in public performances.

CREELEY: Which is fine. I love the sense of poets as bards, as people who bring variously the emotional news of the world. I think of performers like Vachel Lindsay and a number of my own company — whether it be Amiri Baraka, Ann Waldman, Lawrence Ferlinghetti, Allen Ginsberg, or Ed Sanders — a number of people; if we are going to bring this art back into some viable, unprivileged social communication, that is, some common communication of that order, this kind of performance is one of its possible instruments.

Ed Sanders, for example, during the sixties, wanted to get to the people with very particular information. He is a poet who believes in what he would call investigatory poetry — that poets have, as Shelley said, a legislative responsibility; they are consciences, they are uncoerced recorders of what's happening. So Ed thought, here are awful things happening in American imaginative life, and there must be some way to reach the body politic with this information. And he got together with this group, the Fugs, and he did reach a lot of people. I don't think that performance in that sense is a misuse of poetry, any more than I would think music was best left in scores, for everyone to read and play to themselves, or rather that it should be heard only on records.

GAMUT: What sort of responsibility do you think poets have for spreading an appreciation of poetry among the benighted?

CREELEY: A large one. I've always respected Ginsberg, particularly in the late fifties and early sixties, when he was then traveling a lot, and he would take books, not only of his friends but of others that he respected, literally everywhere in the world he went. And that's not easy. So they got to Russia, they got to India, Japan — he was an incredible envoy — proselytizer is probably the word — so that when I met Yevtushenko, he had seen my books, that Allen had brought. Yes, I think it's an important responsibility. It's the great old-time tradition to bring the news. Writing has always been an incredibly dear community because you're in a world that has the possibility of being absolutely regional.

I remember traveling a few years ago to places that were to my mind incredibly remote — Kuala Lumpur, Taegu, Seoul — and the insistent community was that we were *writers*, not like Boy Scouts wearing the same uniform, but we had habits and attitudes toward the world that were remarkably similar, and that translated across all these apparent boundaries of cultural disposition, habit, and everything else. Even when we couldn't understand one another's language. I've always envied women who've had babies, because they can always talk to other women who've had babies. But writers also *can* talk with each other; it's not that they all write the same, but they all have that particular way of feeling that work. Writers have also had babies.

I love the sense of poets as bards.



Calendar Poems

Here are two of the Calendar poems that Robert Creeley discusses in the preceding conversation (pp. 20-21). This year *A Calendar* will be published in book form by Toothpaste Press, Box 546, 626 E. Main, West Branch, IA 52358 (\$10.00). Copyright © 1983 by Robert Creeley. Reprinted by permission.

MARCH MOON

Already night and day move
more closely, shyly, under this frozen

white cover, still rigid with
locked, fixed, deadened containment.

The dog lies snuffling, snarling
at the sounds beyond the door.

She hears the night, the new moon,
the white, wan star, the

emptiness momentarily will break
itself open, howling, intemperate.

"WHAN THAT APRILLE . . ."

When April with his showers sweet
the drought of March has pierced to the root
and bathed every vein in such liquer
its virtue thus becomes the flower . . .

When faded harshness moves to be
gone with such bleakness days had been,
sunk under snows had covered them,
week after week no sun to see,

then restlessness resolves in rain
after rain comes now to wash all clean
and soften buds begin to spring
from battered branches, patient earth.

Then into all comes life again,
which times before had one thought dead,
and all is outside, nothing in —
and so it once more does begin.

Carsten Ahrens

Ottawa County's Very Special Daisy

When I attended the Lakeside (Ohio) High School, sixty-some years ago, I read with amazement of fly-catching plants, vines that strangled trees, pines with cones two-feet long, and of trees so gigantic that someone carved a tunnel through one that allowed carriages to drive through. I said in protest to my agriculture teacher, C.S. Ward, "Doesn't Ottawa County have a single plant that is unique, not like our dime-a-dozen grape vine or Elberta peach tree?"

"Well, as a matter of fact, it does," said Professor Ward. He led me to a shelf of his own books and took out one of the volumes: *Gray's New Manual of Botany (Seventh Edition), a Handbook of the Flowering Plants and Ferns of Central and Eastern States and Adjacent Canada*. Copyright, 1908. I know because it is probably the oldest book in my library now, so worn that it must be handled tenderly.

Professor Ward turned to page 844, read, and then translated the terms Gray used to describe a plant then known only to exist in our local quarries and in a similar area in Illinois. "This is the middle of May, so you will find the flowers blooming now in large beds in the quarry, not very far from the Marblehead Lighthouse," said the professor.

The next Saturday, I saddled Gypsy and rode out Alexander Pike that crossed the quarry near the famous old lighthouse. There the stony quarry floor gleamed with neat patches of the attractive plants. There were hundreds of yellow-eyed daisies with yellow notched petals (Gray called them "rays") that grew singly on foot-long stems. About the base of the plant were strap-like leaves hiding the slender tap-root that had forced its way down crevices in the gray stratum on which it grew. The botany book gave it only a scientific name; Professor Ward called it the Lakeside daisy. He had stressed for my benefit that Gray stated that in the vast region of eastern U.S.A. and Canada, this daisy grew only in two small areas: Ottawa County, Ohio, and Joliet, Illinois.

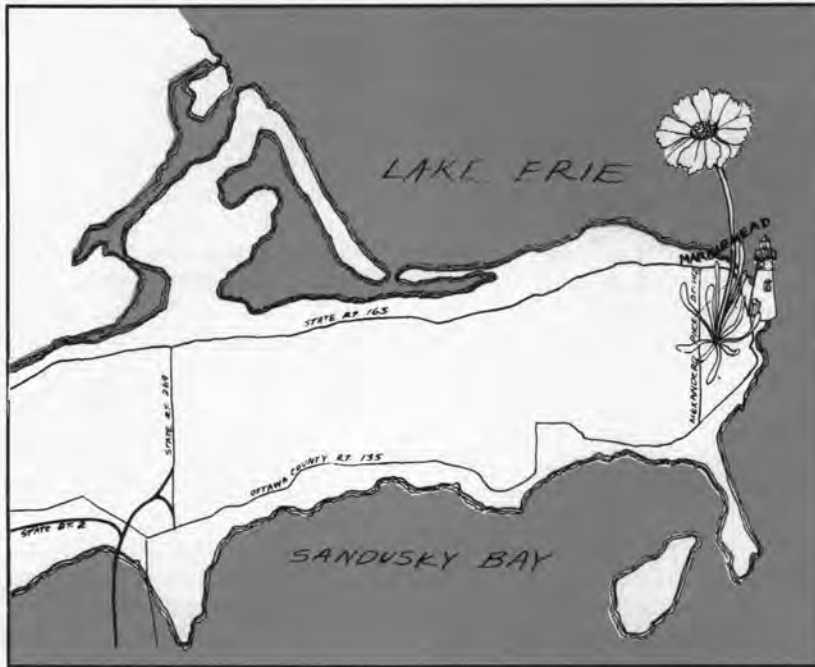
Now each spring when I make the trip to open my summer place on Lake Erie, I make certain to arrive by mid-May so that I can again see these daisies in bloom. Like Housman and his cherry blooms, I must

annually enjoy Lakeside daisies while my years allow the visits. The daisy doesn't grow as extensively as it did three-score years ago, but it doesn't seem in any present danger of extinction. Of late, a permit has been necessary for one to gain entrance to the area where the flowers grow. For being the guardian of this distinct species, the Marblehead Stone Division of the Standard Slag Company deserves our appreciation and gratitude.

My research on this daisy has been chiefly in four big botanical works, published in 1908, 1926, 1968, and 1971. None of the botanists give the flower a common name; only locally is it called Lakeside daisy, and taxonomists have argued over its scientific name. It has been described as *Actinia herbacea*, *Actinia aculis*, and today it is called *Hymenoxys aculis*. The botanist who first described the plant in 1814 thought it belonged with *Gaillardias*.

The first book (1908) limited the flower's habitat to Ohio and Illinois; the second (1926) added Manitowlin Island, Ontario; the third (1968) increased the list with Arizona, Idaho, and Nevada; and the fourth (1971) states "... the species reaches its high-





Ohio home of
Lakeside daisy.

est complexity in the Wyoming Basin and the Colorado plateau . . . Its range also extends into s. Idaho, e. Nevada, s. to Texas and se. California, n. to Montana and to s. Saskatchewan and e. across the plains to Kansas." So our Lakeside daisy is definitely a Western plant that somehow and sometime reached the limestone quarries of Marblehead. None of the plants have been found east of Ohio in the U.S.A.

Recently I visited the tremendous herbarium in the Botany Section of Carnegie Museum of Pittsburgh and examined three dozen folders each holding several mounted specimens of our daisy from most of the areas listed above. In addition, there are specimens from Alberta, Canada; Sioux County, Nebraska; the "side of a small butte" in North Dakota, and from Arnett, Oklahoma. In the collection are two taken from the Marblehead quarries at the turn of the century.

An obvious but interesting fact that impressed me on looking at the pressed specimens from the various states was the unusual differences in plant height. The flowers from Marblehead are just about 12 inches tall. Elevations in the West, where the flower has been found growing at tree-line and above, have helped to dwarf it greatly. Those at Unita Basin, Utah, 4,500', grew to 8" tall; in the

same area, but at 6,000', 6"; in the Irish Mountains, Nevada, 7,900', 3"; in the Rocky Mountain National Park, 11,250', 2"; and away up on the side of Pike's Peak in Colorado, 12,500', less than an inch. The plant is so distinctive, however, that at whatever elevation it is found, this daisy is instantly recognized.

A curious fact about the flower is that wherever it grows, it seems to select the most uninviting kind of habitat: desert, talus slope, rocky outpost, quarry floor . . . areas avoided by most other plants.



The author's daughter, Karin DeStefano, with Lakeside daisies.

Carsten Ahrens, a retired National Park Ranger-Naturalist, now lives in Pittsburgh.

George C. Chang

Progress and Promise of Electric Vehicles

Electric Vehicles (EVs) are not new. The principles of electrically-propelled cars were well understood by physicists and inventors more than a century ago. With the advent of large "electricity storage batteries," practical electric cars were built shortly before the turn of the twentieth century, and many thousands of them were in use in the United States around 1910 (9, 16).*

Soon after that came the gasoline powered cars commonly known as internal-combustion-engine vehicles (ICVs). These ICVs have since dominated the field, pushing the EVs into near extinction. Today only a small number of EVs are in service (2, 6).

Since the oil embargo a decade ago, the public and concerned technologists all over the world have taken a second look at the potential usefulness of electric vehicles. Many are impressed by the promise of the EVs, and research and development activities to create improved models have gained momentum. Such a resurgence of interest in electric vehicles may lead to their widespread commercialization within a decade or so. Some even reckon that EVs will stage a strong comeback sooner than that, particularly if another serious crude oil crisis should occur.

*Parenthetical numbers refer to references at the end of the article (p. 47).

Early Electric Vehicles

The first electric vehicle is believed to have been built by Robert Anderson of Aberdeen, Scotland, in 1839. Little is known about Anderson's car except that it did not perform as well as the steam vehicles that had been traveling the roads and rails of England since 1825 (3, 15). The first electric taxicab, introduced in England in 1886, used a battery of 28 cells and a small motor. Its top speed of about 8 miles per hour was reasonably competitive with the horse carriages then in use.

The slow progress in developing electric vehicles was to a large measure due to lack of good batteries that were rechargeable, reliable, and lightweight. During the period from 1890 to 1910, two important modern batteries were developed: the lead-acid battery by H. Tudor, and the nickel-iron battery by Thomas Edison. The advent of the nickel-iron battery was accompanied by a great increase in the manufacture and use of electric cars and trucks.

In 1897, the London Electric Cab Company inaugurated regular service with electric cars designed by Walter Bersey. These cars used a 40-cell battery with a 3-horsepower electric motor, and could be driven about 50 miles between recharges. In the

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Baker Special Extension Coupe

(Pneumatic Tires)

Bevel-Gear Shaft Drive

Spacious interior dimensions; ample knee room; wide seats and luxuriously upholstered throughout. The Standard Electric Coupe.

Body Dimensions—Rear seat, width 45".
Front seat, width 42".
Distance between seats —
17½" — 21½".

Painting—Black body. Blue, green or maroon panels. Body panels aluminum.

Ad for the 1912 Baker Electric Coupe. Courtesy The Western Reserve Historical Society, Cleveland, Ohio.



Electric car endurance run, Bridgeport, Conn., 1910.

same year, the Pope Manufacturing Company of Hartford, Connecticut, began production of electric vehicles. It made five hundred electric cars during the next two years.

By 1900 there were some 57 automobile plants in the United States, only one quarter



First automobile owned by Mr. and Mrs. Thomas A. Edison — the 1901 Baker Runabout electric car made in Cleveland. Photo courtesy of the Western Reserve Historical Society, Cleveland, Ohio.

of them producing gasoline cars; the rest were evenly divided between electrics and steam cars. The Electric Vehicle Company of Hartford, Connecticut, a large holding company with assets of \$200 million in 1899, was the first large-scale operation in the American automobile industry. It manufactured 2000 electric taxicabs in 1904 and also produced electric trucks and buses.

Around the turn of the century, EVs such as those now on exhibition at Crawford Auto-Aviation Museum (and on these pages) were manufactured and used in the industrialized cities of Ohio, including Cleveland. At that time, electric cars seemed to be competitive with the cumbersome steam car and the new challenger, the gasoline car (3, 6). Electric cars were comparatively simple and easy to handle. They appealed to women, who appreciated the fact that the electrics could be moved with the flip of a switch. In contrast, the gasoline engines in those days had to be started with a hand crank — very inconvenient for women wearing the cumbersome clothing of that time.

But the performance and cost of the EVs were such that the public soon went for the gasoline vehicles. Clearly, by around 1910 the Electric Vehicle Company and many others that produced electric cars had lost out in the competition with ICV manufacturers. Nevertheless, electric trucks still outnumbered

bered gasoline vehicles in 1915 at a number of large companies, as shown in Table 1.

Table 1. Some Commercial Truck Users in 1915

Company	Electric	Gasoline
American Express	220	154
Adams Express Co.	326	160
Ward Baking Co.	610	50
Marshall Field	230	70
Jacob Ruppert Brewery	120	37
Commonwealth Edison Co.	114	0
New York Edison Co.	144	5
Gimbel Brothers	119	97

The dominance of electric trucks was, however, relatively insignificant in comparison to the dramatic increase in the production of ICVs by the Ford Motor Company. By 1913, Henry Ford's Company dominated the automobile market in the United States. Ford began in 1896 with a "quadricycle" propelled by a gasoline engine, which produced disagreeable odors, waste heat, and considerable vibration. Nobody knows for sure why Ford chose the gasoline engine; whatever the reason, he soon began manufacturing low-priced ICVs using assembly-line techniques. More important, his products delivered better performance than the electrics in acceleration, range, propulsion-system weight, independence from electric source, and so on. The success story of the ICVs is clearly indicated by the figures in Table 2.

Table 2. Henry Ford's Production of Gasoline Powered Cars

Year	Number	Year	Number
1904	1,708	1911	34,528
1905	1,695	1912	78,440
1906	1,599	1913	168,220
1907	8,423	1914	248,307
1908	6,398	1915	308,213
1909	10,607	1916	533,921
1910	18,664		

By the time of World War I, the steam car had vanished because of poor market acceptance, and development and production of EVs was rather dormant. Nevertheless a small number of EVs have continued to be

manufactured around the world, most of them for commercial service in cities—delivering milk, mail, and various merchandise. During the past half-century, in the United Kingdom alone, 40,000 milk trucks powered by batteries have been placed in use. Meanwhile inventors and entrepreneurs have never ceased to devote energy and time to building improved electric vehicles. Though technological progress on the vehicles themselves between 1915 and 1975 has not been great, advances in battery technology and production have been more significant. Today's EVs have much greater capabilities than their predecessors seventy years ago.

But major improvements have also been made on gasoline vehicles during the last two generations, beginning with the invention of the electric starter in 1920. Automatic transmissions, improved materials, and general upgrading in mechanical engineering have made the ICVs very well accepted by American families and businesses. If the EVs are to stage a significant comeback, they must be carefully improved.

Electric Vehicles of the 1970s

Many thousands of electric vehicles were in use in the late 1970s around the world, most of them commercial delivery vans and forklift trucks. Some small electric passenger cars were in service, too; nearly two thousand of them were on the American roads in 1977. In general these EVs cost much more to operate than their gasoline counterparts, their propulsion batteries were heavy and expensive, and, above all, they were definitely outperformed by the gasoline powered ICVs. To test quantitatively the performance of EVs of the 1970, the industry and government laboratories in the United States undertook several studies and testing programs.

The first large-scale state-of-the-art assessment of modern electric vehicles was conducted in 1976-77 by the NASA Lewis Research Center in Cleveland for the U.S. Department of Energy (then known as the U.S. Energy Research and Development Administration or ERDA), with the support of the Jet Propulsion Laboratory (Reference 13; in addition to vehicle test results, this report also summarizes a broad survey of EV manu-

facturers and users). In this assessment, controlled track tests of a representative sample of electric vehicles were conducted in accordance with the procedures specified by an industrial standard course known as the SAE J227a. The testers selected ten personal EVs and twelve commercial EVs, judged collectively to represent the current state-of-the-art.

In appearance, most of the EVs tested bore resemblance to conventional gasoline cars. All were powered by lead-acid batteries of various designs. The principal features of these electrics are summarized in Table 3.

Table 3. Characteristics of Test Vehicles

	Personal EVs	Commercial EVs
Curb Weight	1220 - 3990 lbs	2035 - 6116 lbs
Payload	220 - 650 lbs	635 - 1765 lbs
Battery Weight	412 - 1400 lbs	930 - 2300 lbs
Battery Voltage	48 - 216 volts	54 - 216 volts
Motor Power	2.7 - 20 Hp	10 - 50 Hp
Regenerative Braking*	3 out of 10	6 out of 12

*See below, pp. 41-42.

From the above table, it is seen that most personal cars were comparable in weight to gasoline ICVs. But batteries represented a very high percentage of the total curb weight. The heavy pack of batteries that the EVs had to carry around all the time exacted a burdensome penalty in vehicle performance such as gradeability (hill climbing) and acceleration. The EVs tested were generally underpowered compared to ICVs, because the motor sizes were necessarily

limited by the weight and size of the batteries. The initial cost of the electrics was nearly twice as high as that of gasoline vehicles (13). Lead-acid batteries would last about two years, delivering a life of about 250 to 300 deep (80%) discharge cycles. The replacement cost of a representative set of batteries (rated at 20 kWh) was in the range of \$2,000 to \$3,000. Consequently, the life cycle cost or operating cost of the EVs of the 1970s was considered much higher than comparable ICVs. Table 4 tabulates some of the test data, which will be discussed below.

Range

The average range of electric passenger cars following the J227aC driving schedule is in the neighborhood of 20 to 30 miles between battery recharges; the range for constant speeds of 25 mph is from 26 to 59 miles. Though the corresponding data from the commercial EVs are somewhat more attractive, nonetheless, there are serious range limitations. A suburban commuter may be able to drive an EV to work if he cares to pay for it, but EVs can hardly be used for taxicabs.

Theoretically, vehicle range decreases with increasing speed. From the data given in Table 4, it is obvious that the EVs of the 1970s are not suited for high-speed driving.

The range of an electric vehicle can certainly be increased through the use of improved batteries, which ideally should be capable of several times the energy storage capacity per unit weight of the lead-acid batteries of the 1970s. Another way of improving the

Table 4. Performance Data of EVs Tested (13)

Vehicle Code	Battery* Fraction	Acceleration 0 to 30 (seconds)	Max. Speed (mph)	Max. Gradeability** (%)	Range J225aC (miles)	Range 25 Mph (mile)	Energy Used*** (kWh/mile)
P- 1	0.35	29	36	6	—	59	—
P- 3	0.28	16	50	6	28	49	0.75
P- 5	0.29	—	30	3	—	26	—
P- 7	0.30	17	56	6	30	53	0.87
P- 9	0.27	20	47	7	21	38	—
C- 1	0.37	11	56	11	40	66	1.31
C- 3	0.24	14	45	7	30	73	—
C- 5	0.23	—	40	7	36	44	0.78
C- 7	0.36	17	35	—	55	75	0.49
C- 9	0.23	13	40	7	—	—	—
C-11	0.21	21	—	—	20	38	0.51

*Weight of propulsion battery as a fraction of vehicle curb weight

**At 25 mph

***For Driving Schedule J227aC

range is to employ the concept of regenerative braking. These ideas will be discussed later.

Acceleration

Most conventional ICVs today are capable of reaching 30 mph from standstill in 5 to 10 seconds. Such acceleration is important for safe driving on boulevards and freeways. It is clear from Table 4 that in acceleration the EVs are vastly outperformed by the ICVs. To improve the acceleration, the mass of the vehicle including the batteries must be reduced, and the peak power density of the battery should double the 30-40 watts per pound of the batteries of the 1970s. Alternatively, a fly-wheel energy storage system can be utilized to provide the necessary pep power for acceleration.

Maximum Speed

The higher the vehicle speed, the more torque or power the motor must deliver to the wheels. Since the EVs are usually underpowered (e.g., a 15-horsepower motor for a 3000-pound car) as compared to the ICVs, it is no wonder that their maximum speed as shown in Table 4 is comparatively low. For the sake of safety as well as versatility, the EVs should be equipped with more powerful motors. Other improvements are also needed, such as reduction of road load (tire friction resistance) and air resistance.

Energy Consumption

Energy consumption of an electric vehicle varies largely with the efficiency of the drivetrain and vehicle weight. The data (and additional test data from Refs. 2, 13) seem to indicate medium-size passenger EVs need 0.5-0.8 kWh for each mile traveled. More specifically, the energy consumption is about 0.2-0.3 watt-hour per mile-pound, which is rather high. Energy consumption generally increases with increasing speed due to increased road loads and air resistance. This explains why most of these underpowered EVs can't travel fast enough to keep up with freeway traffic.

There is room for reducing energy consumption of EVs. The drivetrain can be made more efficient and the shape of the vehicle streamlined. Reduction in vehicle gross weight, however, offers the greatest promise in reducing vehicle energy consumption. This again points to the need for battery weight reduction and also to the use of lightweight materials for the vehicle chassis.

Temperature

The vehicles were tested during the time of the year when the temperature was warm and comfortable. Thus, the vehicle batteries did not experience cold winter temperatures. Since battery performance goes down drastically when ambient temperature dips to below freezing point, performance of EVs under freezing conditions can be expected to be adversely affected. The acceleration capability and the speed would be far below the data discussed thus far—perhaps by as much as a factor of 2.

Recent Technical Progress

The conventional gasoline-powered ICV began its dominance of non-rail ground transportation shortly before World War I, and since then it has been greatly improved. The electric vehicle, in contrast, received only limited attention until the 1960s, and during that period technical progress was rather limited. In 1966 the first bills dealing with electric vehicle development were introduced in the Congress in the hope of reducing air pollution in urban areas, which was largely due to the widespread use of ICVs.

Soon came the 1973-74 energy crisis. Public interest in electric vehicles increased, as it was generally recognized that the use of electric vehicles would result in savings of imported petroleum. The U.S. Government quickly initiated a substantial research and development program to advance the technology of electric vehicles. Soon the U.S. Congress enacted Public Law 94-413, the "Electric and Hybrid Vehicle Research, Development, and Demonstration Act of 1976," which authorized a comprehensive Federal program to promote electric/hybrid vehicle technologies and to demonstrate the commercial feasibility of electric vehicles. At the same time, a number of private companies and inventors also began to engage in EV development, and similar activities were taking place overseas as well.

In France, Germany, and Italy, the EV enthusiasts were joined by large manufacturers of conventional vehicles. In the United Kingdom, over one thousand electric delivery trucks were made per year during the late 1970s. In Japan a long-term joint venture was begun in 1971 between the government and private enterprise, targeting both

the drive system and the battery for improvement.

The various components of the EV propulsion system have become better and cheaper in recent years, largely as a result of technological developments in microelectronics, magnets, materials technology, and related fields (12, 15, 16).

Permanent Magnet Motors

In the last five or six years, new lightweight motors have been designed and tested for EV applications (5, 8, 11), using permanent magnets (such as samarium-cobalt and ferrite), power transistors in the chopper, and industrial thyristors in the inverter.* These developments have produced significant improvement in motor efficiency, cost, and weight.

In conventional d.c. motors with brush commutation, the electric current is transmitted to the rotor through metal contacts; the new motors using electronic commutation perform better, with efficiencies in the range from 84 to 95 percent, representing an improvement of some seven to ten percent over commonly used EV motors of the 1970s. The reduction in weight is even higher.

The world-wide development of permanent magnet motors will permit their large-scale commercialization in the late 1980s. This is particularly true of the drum type motor, for which technology is more mature than the disk motor. Indeed, the concept of permanent magnet motor has already been commercialized in aerospace applications.

Induction Motors and Controllers

The a.c. squirrel-cage induction motor is simpler in design as well as construction than the conventional d.c. motor. It has a solid rotor, no brushes or commutators, and can operate at much higher speeds. Like the other new motors, the induction motor is controlled and operated by power electronics, in the form of a poly-phase inverter

capable of variable frequency and variable voltage. The motor speed and torque (rotating force) are thus conveniently regulated by controlling the frequency and voltage output of the inverter.

These a.c. motors are smaller, lighter, and somewhat more efficient than conventional d.c. motors, with efficiencies typically above 90 percent. So far, though, these motors and the associated controllers cost more, largely because of the expensive transistors. But market forces are at work to accelerate the development of lower-cost power transistors.

Improved Conventional Motors and Controllers

Conventional brush-commutated d.c. motors, which will no doubt continue to be used for EV propulsion, are also being improved, by both reduction in manufacturing cost and development of more effective means of controlling speed and torque, by use of thyristors and transistors in the chopper (17).

Transmissions

Although the electric motor of the EV can be directly connected to the wheels without an intervening transmission, such a design produces a single fixed speed ratio. A multi-speed transmission is more efficient, and a continuously variable speed transmission will offer even greater benefits. Progress has been reported in the development of EV transmissions (12), which could soon result in extremely high transmission efficiencies, 90 to 96 percent. Success in the development of continuously variable transmissions would represent a milestone: this is urgently needed for use with an energy-storing flywheel, a device that can be used with regenerative braking systems and that can also regulate the motor power requirements upon the battery, thereby prolonging battery life (1, 4).

Regenerative Braking

A moving vehicle possesses kinetic energy (energy in the form of moving mass), which it has received when set in motion by the engine. Normally, this energy is dissipated in the brakes—simply wasted—when the vehicle is stopped. Regenerative braking is an advanced technique that, as the vehicle is stopped, converts its kinetic energy to a different form that can be stored and later re-used to propel the vehicle again. Regenera-

*A **chopper** is an electric device that interrupts an electric current at short regular intervals.

An **inverter** is a device for converting direct current into alternating current by electrical means.

A **thyristor** is a solid-state switch that has a special control terminal (gate). It blocks forward voltage until an appropriate current pulse is applied to the gate. Thereafter the device continues to conduct as long as forward current is flowing. It is also known as the SCR (silicon-controlled rectifier).

tive braking thus should greatly increase the range of cars driven in stop-and-go traffic (1, 4, 7, 10). Several kinds of systems are suited for regenerative braking of EVs, including the motor-generator and the flywheel.

Motor-Generator Regenerative Braking

In this technique, the propulsion motor is quickly converted to a generator as the driver applies the brake. As the vehicle slows down, its momentum continues to turn the motor, which now acts as a generator and produces electricity to recharge the battery pack. The hardware involved is simple. The problem lies in the fact that batteries are usually not able to accept efficiently the sudden surge of electricity produced by rapid braking. Representative efficiency of the regenerative braking of the EVs of the 1970s can be seen in Table 5.

Table 5. Benefits of Electric Regenerative Braking (RB)*

Test Vehicle	Range Without RB (miles)	Range With RB (miles)	Increase in Range (%)
P - 3	23	28	21
P - 6	58	77	31
P - 7	28	30	9
C - 3	29	30	3
C - 5	28	36	29

*Based on track test results involving the J227aC procedure. (13)

Flywheel Regenerative Braking

In this technique, a flywheel within the vehicle stores energy in the form of rotary motion. When the brakes are activated, the vehicle's kinetic energy is channeled through the drive shaft and the transmission into the flywheel energy storage module. When the vehicle moves again, the flywheel energy is fed back to the electric motor (4, 7).

During 1977-78, flywheel regenerative braking was tested in a joint project supported by the U.S. ERDA (which became part of the U.S. Dept. of Energy) and the U.S. Postal Service. An existing postal electric "jeep" was modified to allow regenerative braking (7). The results were relatively encouraging, as shown in Table 6.

As can be seen, flywheel regenerative braking not only increases vehicle range, but it also greatly improves the acceleration capability of the vehicle — one of the major advantages of this device. Unfortunately, the

flywheel system adds to the complexity of the system and at present is expensive.

The viability of the flywheel has been further substantiated by several independent investigations. In the late 1970s, the concept was translated into a hardware package installed in a few revenue-earning subway cars in New York City, with a resulting energy saving of over 30 percent. More

Table 6. Benefits of Flywheel Regenerative Braking

	Braking Acceleration from 0 to 30 mph (sec.)	Top Speed (mph)	Daily Stop-and-Go Cycles
Unmodified Vehicle	23	33	350
Modified Vehicle	12.5	40	500
Improvement	50%	21%	43%

recently, a flywheel was incorporated into the drivetrain of a "near-term electric vehicle" known as the ETV-2. The use of the flywheel module allowed leveling of the electric current drawn from batteries and permitted vehicle performance to be maintained over the life of the battery regardless of the age (degradation) or depth of discharge of the battery.

Advances in Propulsion Battery Technology

As mentioned previously, all production electric vehicles at present use lead-acid batteries for propulsion. Most of these batteries are designed for industrial use or use in golf carts. These conventional batteries offer less than adequate performance and are too expensive for practical EVs that can compete with gasoline vehicles. Clearly, improvement is needed both in battery performance and cost.

In the United States, a comprehensive program of research on battery technology has been undertaken by industry and the federal government, since the mid-1970s. Battery researchers have also been very active in a number of foreign countries, notably in Japan and Western European nations. As a result, progress has been made toward improved lead-acid batteries. Alternative battery types for the near term include nickel-iron, nickel-zinc, and zinc-chlorine batteries. For long-term applications, research has been under way to perfect the sodium-sulfur and the lithium-metal sulfide batteries which are projected to be 5 or 6 times as good as existing lead-acid batteries. To illustrate improvements in battery technology, key

performance data are presented in Tables 7 (4, 9, 14, 15).

It can be seen that very significant improvements have been made to the lead-acid battery, particularly in specific energy and cycle life, but its potential for additional improvement is rather limited. Prospects are very good, however, for the emergence of an excellent battery in the late 1980s or early 1990s, one with a high specific energy (35-40 watt-hours per pound)—four times as good as the state-of-the-art lead-acid battery. Its life may be in the range of 1000 cycles, four times as good as the lead-acid battery. Still the specific power of this advanced battery will likely be a disappointing 40-50 watts per pound. This figure simply reveals that battery technologists have been able to do very little in improving specific power during the last decades.

The shortcoming in specific power of various batteries may be remedied by the proper integration of the flywheel. As shown in Fig. 4, the flywheel offers outstanding specific power (in excess of 500 watts per pound) while delivering a modest specific energy higher than 25 watt-hours per pound (4). The idea of a battery-flywheel system has been considered sound in a technical sense. It has also been validated in experiments on the ETV-2 test vehicle within the past three or four years (1).

Near-Term Electric Vehicles: the ETV-1 and the ETV-2

During the twenty-seven months ending July 1979, General Electric Company and its subcontractors, including Chrysler, de-

veloped an electric car with the support of the U.S. Dept. of Energy, incorporating the latest technology in order to achieve a level of performance substantially better than previous electric cars. According to published reports, this objective was achieved (10, 15).

The car developed under this particular program, known as ETV-1, was developed from scratch. The designers are said to have employed the systems approach, paying careful attention to the interactions between vehicle body and chassis, electric drive subsystem, and the propulsion battery. The resulting vehicle is shown in Fig. 5. The vehicle was designed to be aerodynamically sound, with a drag coefficient of 0.30 and a frontal area of just over 19 square feet, thus reportedly achieving 50 percent lower drag than comparable production EVs.

The ETV-1 employed front-wheel drive to ensure efficient packaging of the electrical drive subsystem. An advanced d.c. drive subsystem (depicted in Fig. 6) used a "separately excited d.c. motor" with electronic armature and field controls. This car also featured electrical regenerative braking capability and advanced drive electronics, including new high-power transmissions for armature and field controls and a microcomputer to provide flexible control of the entire electrical subsystem. Reacting to the driver and the vehicle sensors, the microprocessor generates commands that govern the operation of the motor, transmission, battery charge/discharge, etc. At the heart of the microcomputer are the Intel 8080A microprocessor and associated peripheral integrated circuit chips.

Design calculations predicted that the

Table 7. Performance of EV Batteries

	Lead Acid			Nickel-Iron			Nickel-Zinc			Zinc-Chlorine	Sodium-Sulfur	Lithium-Iron sulfide
	1977	1981	1986	1977	1981	1986	1977	1981	1986	1985	1985	1985
Specific Energy (Wh/lb)	13.6	19.0	22.7	17.3	21.8	27.3	25.0	30.9	31.8	40.9	40.9	50.0
Specific Power (W/lb)	43.6	47.3	50.0	43.2	46.8	54.5	40.9	59.5	54.5+	40.9	45.5	50.0
Cycle Life*	250	450	800	100	700	1200	100	179	800	1000+	1000+	1000+
Production Cost**		100			1200			550		75	75	80

*Cycle testing performed to 80% depth of discharge.

**Estimates for 1979.

NOTE: Figures for 1986 are estimates made prior to 1980.



Modern electric car — The ETV-1.

ETV-1 would be highly energy efficient, with energy consumption on the urban driving cycle (J227aD) at 0.33 kWh/mile. This figure, which was verified in subsequent tests in 1980-1981, represented significant progress, considering the curb weight of the vehicle (3320 pounds) (10, 15).

At the time when the ETV-1 was developed, the lead-acid battery was judged to offer the best combination of specific energy, specific power, cycle life, and cost. An improved battery known as EV2-13 was thus developed for this test vehicle. It reportedly was capable of the following:

Specific Energy: 17 watt-hours/pound

Specific Power: 82 watts/pound

The batteries were stored below the passenger compartment. Operating voltage was 108 volts.

It appears from Table 8 that this vehicle did represent significant improvements over any known vehicles of its kind.

The Battery-Flywheel ETV-2 Car

During the time when the all-electric ETV-1 was being developed, a parallel effort involving a radically different technology was also made. The AiResearch Manufacturing Co. of California and its subcontractors developed an experimental electric car known as ETV-2, which employed a drive system featuring advanced propulsion batteries, modern controllers, and a high-speed flywheel module. Financial support for this effort came from the U.S. Dept. Energy.

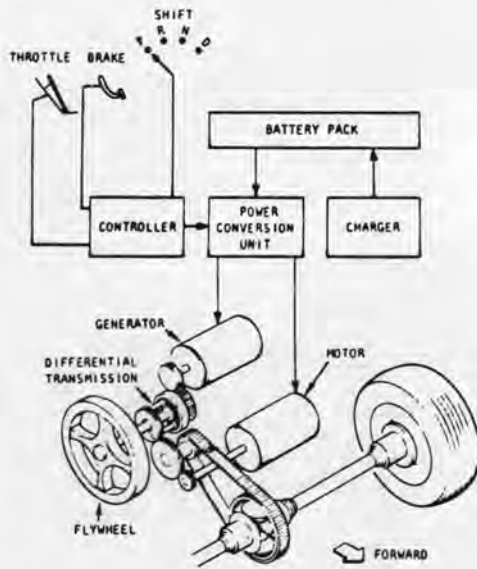
In this design, the flywheel was used as a solution to battery limitations, particularly those of low specific power and specific energy. Thus, a new drive system was developed which allowed the battery to operate at its most efficient mode, thereby prolonging

battery life. The range and acceleration capabilities of the ETV-2 are theoretically expected to be much better than EVs of the 1970s.

Shown opposite is a schematic rendition of the battery-flywheel drive system for the ETV-2. In this system, the flywheel was a most important element of the power unit which propels the vehicle. The flywheel

Table 8. Characteristics & Performance of ETV-1

Passenger capacity	4 adults (600 lbs)
Curb weight	3320 lbs inc. battery weight of 1120 lbs, and electrical drive system weight of 328 lbs
Energy consumption	0.33 kWh/mile (J227aD)
Peak motor power	53 Hp (40 kW)
Passing speed	70 mph
Cruising speed	55 mph
Acceleration: 0 to 30 mph	9 seconds
25 to 55 mph	18 seconds
Maximum gradeability	18 + %
Speed on 1 mile 5% grade	47 mph
Urban range (J227aD)	74 miles
Range at constant speed (35 mph)	123 miles
Range at constant speed (45 mph)	83 miles
Battery energy usable	24.63 kWh
Energy recovered through regenerative braking	3.96 kWh
Battery energy loss (74.5% efficiency)	6.85 kWh
Motor energy loss (81% efficiency)	3.5 kWh
Aerodynamic loss	3.6 kWh
Rolling resistance loss	5.9 kWh
Energy applied to wheels	9.5 kWh



Schematic drawing of battery-flywheel system.

and two motor/generator units were linked through a planetary gearset (transmission). The flywheel, made of composite materials and aluminum, was housed in a near-vacuum container. It was designed to store up to 1.0 kilowatt-hour of energy.

According to published data, the ETV-2 uses a modern solid-state electronic controller, actually a high speed, 16-bit micro-processor-based computer. Total weight of the electronics and controls was reported to be 151 pounds; the power unit weighed 533 pounds and the batteries 1066 pounds.

The ETV-2 used an improved lead-acid battery pack of 18 6-volt units with a total capacity of 19.28 kWh, indicating a specific energy of 18.1 watt-hour per pound. Now, in the ETV-2 the battery power flows to the vehicle wheels in a uniquely regulated way. During normal driving, power requirements vary continuously. To keep the battery current at a near constant level, the controller was designed to direct the flywheel to supply power to keep the vehicle moving forward. During braking operations, the vehicle's kinetic energy was channeled into the flywheel for subsequent re-use. In this manner, the flywheel would accomplish the dual mission of load-leveling the battery and regenerative braking. As the graph on p. 46 shows, the nearly constant battery

output current indicates that the flywheel is providing the power for accelerating the vehicle. The graph also shows that braking energy available during deceleration is appropriately utilized to energize the flywheel. This boldly experimental battery-flywheel design is expected to provide excellent performance.

Principal characteristics and performance of the ETV-2 are summarized in Table 9, using published data (1, 14). It is felt that ETV-2 performance can be further improved through the use of more efficient flywheel modules. The current flywheel module consumed 475 watts power at maximum speed. Significant reduction in this power consumption is deemed feasible by technologies available in the mid-1980s. Major weight reduction in the power unit is also feasible (7).

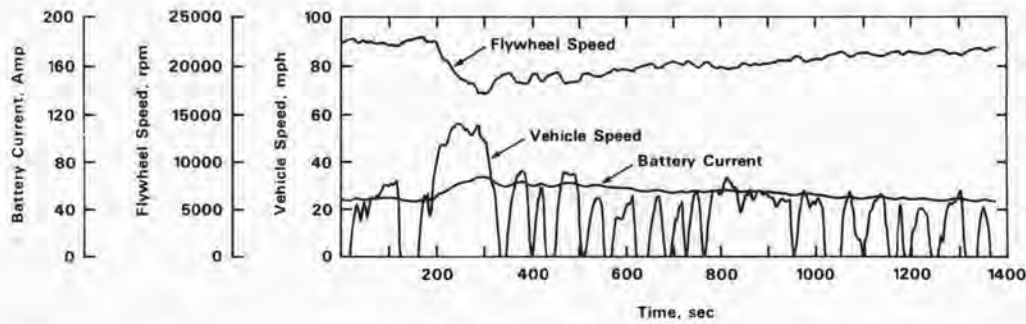
Table 9. Characteristics and Performance of ETV-2

Passenger capacity	4 adults (600 lbs)
Curb weight	3323 lbs including battery weight of 1066 lbs, and drive system weight of 533 lbs
Energy consumption	0.29 kWh/mile (J227aD)
Peak motor power	28 Hp (21 kW)
Maximum speed	62 mph
Acceleration: 0 to 30 mph	8 seconds
25 to 55 mph	10 seconds
Speed on 5% grade	50 mph
Urban range (J227aD)	68 miles
Battery specific energy	18.10 watt-hour/lb
Battery energy usable	19.28 kWh

The Promise and the Future of Electric Vehicles

Battery-powered vehicles promise a number of major advantages, including the following:

- A. Environmental advantages. The electric vehicle produces essentially no air pollution, and no noise. Hence electric cars and delivery vans ought to be encouraged particularly for use in urban areas.
- B. Savings in gasoline. The world's supply of



Performance of ETV-2 power subsystem following the Federal Urban Driving Schedule.

crude oil is limited. It is prudent for nations to tap alternate sources as early as possible. The use of electric vehicles will save crude oil for special uses by future generations. Electricity can be generated from coal or from nuclear, solar, or fusion energy to provide lower energy cost per mile than gasoline.

- C. Efficient use of electric generating facilities. Much of the generating capacity of the electric utilities remains untapped late at night. Such capacity can be put to use to the advantage of consumers, including those who own electric cars. Because of better utilization rates, the cost of electricity could be reduced.

With these impressive advantages to offer, electric vehicles are likely to play a significant role in the future—as soon as their cost and performance are sufficiently improved, perhaps well before the end of the twentieth century. This optimism is based upon two considerations. First, today's electric vehicle technology can provide a car or delivery van that is almost adequate for ordinary use other than long-distance travel. As a matter of fact, a major British manufacturer just introduced a new electric van with attractive performance. Second, the impressive technical progress achieved during the last decade, as shown in Table 10, will most likely be surpassed during the next decade.

The practical EVs of the future will include personal cars and commercial vehicles. The latter category will include an increasingly large number of burden vehicles or fork lift trucks as industrial production becomes more automated. Robots and flexible manufacturing systems may be well served by in-plant EVs.

The personal EV as well as the commercial electrics will likely operate with greatly improved performance, judging from the nature of technological evolution and the progress illustrated in Table 10. The personal EV will perhaps be powered by a hybrid system other than the lead-acid type, with a service life equivalent to 40,000-50,000 miles of driving. Its range between rechargings would be between 100 and 150 miles, depending on the ambient temperature. Energy consumption would be low, perhaps as low as 0.2 kilowatt-hour per mile for a four-passenger car. Regenerative braking, with or

Table 10. A Decade of Progress in EV Technology/Performance

	The Car of the 1970s	The Car of the 1980s
Top speed, mph	35 -45	60 -70
Range (urban), miles	20 -40	65 -75
Energy consumption, kWh/mile	0.5 -0.8	0.3 -0.35
Acceleration in seconds:		
0 to 30 mph	16 -29	8 -9
0 to 50 mph	Greater than 28	17
Motors	Brush-commutated d.c. type	Advanced d.c. or a.c. motors with permanent magnets
Regenerative braking	Ineffectual	Near perfection
Controllers	Inefficient	Digital/computer technology
Specific energy of battery, Wh/lb	12 -13	17 -18
Battery cycle life (80% deep-discharge)	250 -300	450 -500

without the flywheel, will most likely play a prominent role. Finally, this future electric car will most likely be able to stay competitive with its gasoline counterpart with respect to other performance considerations, such as acceleration, passing power, gradeability, highway speed, and reliability. It will be just as safe as any other vehicle, too.

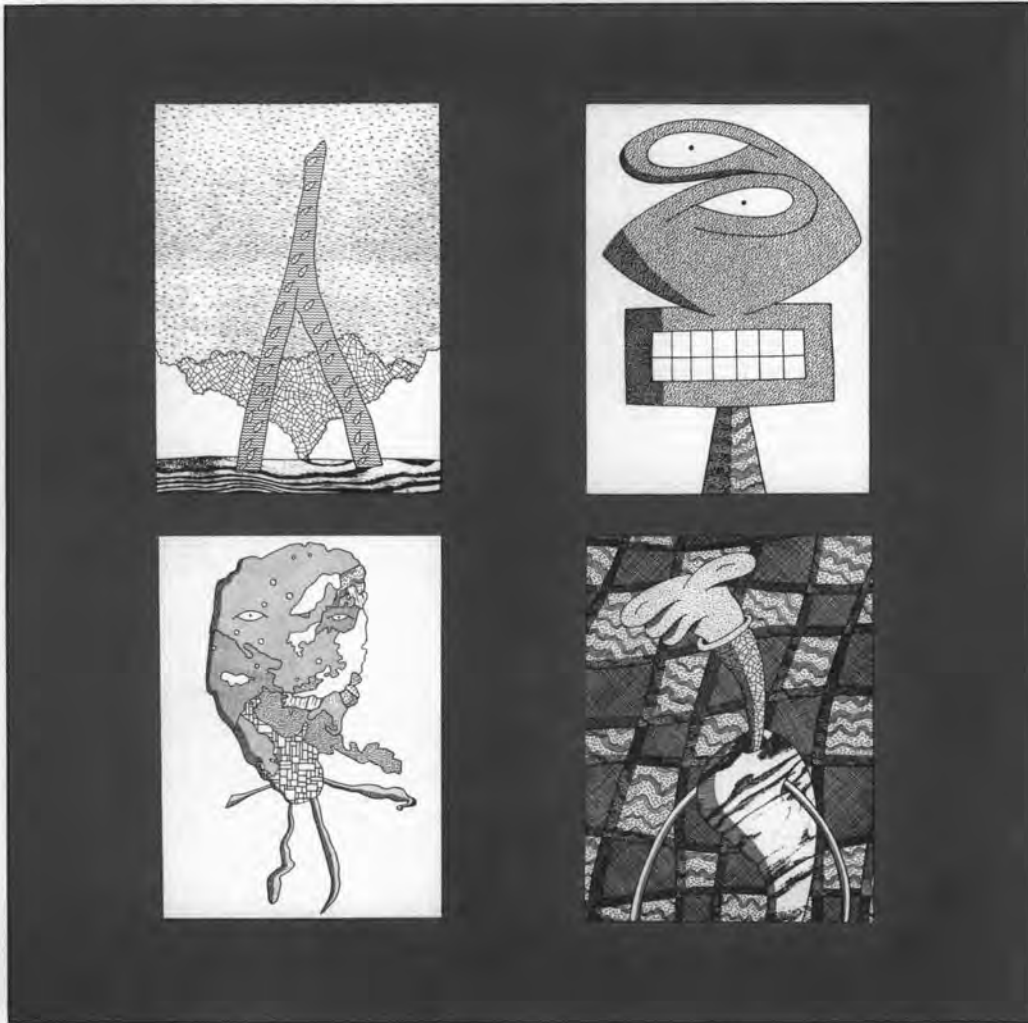
Will such a promising electric car sell

well in the future — ten or fifteen years from now? Yes, it will, provided the cost, both initial and recurring, can be kept competitive. Indeed, the future of the electrics will largely depend on consumer attitudes. To a lesser extent, it will also depend on the political leadership, industrial strategies, and continuing technological innovations the world over.

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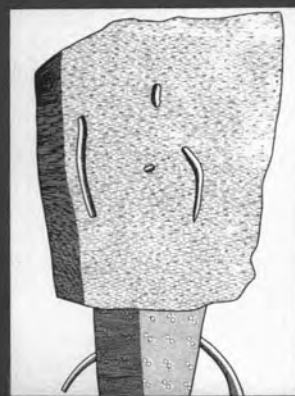
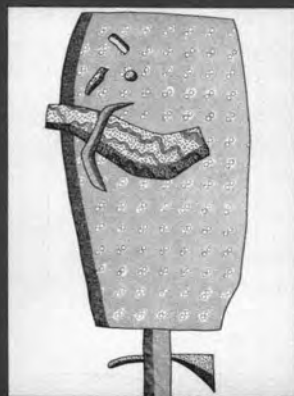
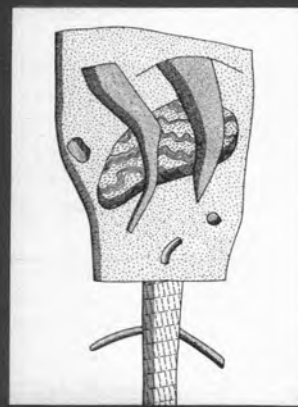
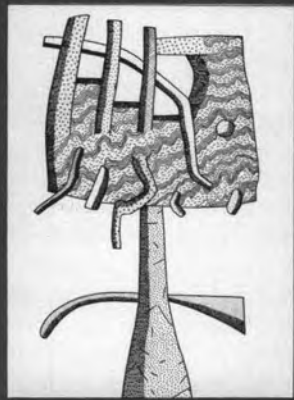
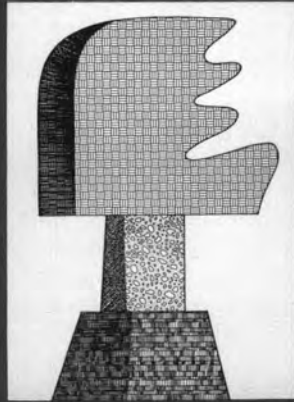
Marvin Jones: Peculiar Portraits



Marvin Jones, associate professor of art at Cleveland State University, has exhibited paintings and prints in several hundred galleries, museums and shows, in this country and Canada, Europe, and Asia. He has had numerous one-man shows, and his works are part of the permanent collections of the Library of Congress, Cleveland Institute of Art, Kansas City Art Institute, San Francisco Art Institute, among others.

He was born in Flora, Illinois, graduated from Anderson College in Indiana, and holds an M.A. from the University of California at Davis. Although he normally resides in Cleveland Heights, he is spending this spring on leave at the Montalvo Center for the Arts in Saratoga, California.

Jones specified that his pictures be reduced and grouped as shown. Asked to comment on his work, he said: "In certain societies the artist might reasonably be asked to participate in developing positive social possibilities. Under other circumstances honesty requires that the artist restrict himself to recording things as they are. The certainty of the direction of future social developments makes me confident that my pictures will be seen in the future as accurate documents of the time in which I lived."



Ingrid Komar

Making Utopia Work

Twin Oaks, an experimental commune inspired by B.F. Skinner's *Walden Two*, is still going strong after seventeen years

The utopian question, how to build a perfect society, is the ultimate "how to." The question must be as old as the first glimmerings of human consciousness, when primitive people asked, "How do I survive here?" "Who am I?" "Who are you?" "What is here?" "What do I do with it?" and "What do I do with me?" We are all part of the research team investigating these questions, whether we acknowledge it or not. But should you feel inclined to tackle the quest directly, in toto, or, as we say now, holistically — I suggest you go to central Virginia. There, about 100 miles south of Washington, D.C. and less than an hour's drive from either Richmond or Charlottesville, you will find Twin Oaks, an "intentional community" originally inspired by B.F. Skinner's utopian novel *Walden Two*. Founded in the 60s, Twin Oaks, unlike many other communes of that era, is still going strong.

Twin Oaks Community consists of 72 adults and 15 children living on 483 acres in the Virginia Piedmont region. The community is secular and egalitarian, but otherwise ideologically diverse. In fact, encouragement of diversity is one of its basic principles. A variety of religious and philosophical views, styles of living, and sexual arrangements (including monogamy) are accommodated, and children are raised communally, somewhat as in a kibbutz. Property is owned in common

and work is shared equally, with special attention to the avoidance of sexual stereotyping in the assignment of tasks. Rather than merely avoiding sexism, Twin Oaks is bent on creating an androgynous culture. To that end, the communards have introduced a new personal pronoun into their vernacular: when the sex of the person referred to is unknown or unspecified, Twin Oakers use the word *co* rather than *he* or the awkward *he or she*. Consistent with its efforts to be self-reliant, the community grows 70 percent of its own food organically, and the buildings it has constructed embody advanced methods of energy conservation.

I first came to Twin Oaks in 1975, a few months after my second son Koala had joined the community. Don't think for a moment I named him Koala! I named him Robert. In 1975, however, there were six males who answered to various versions of Robert at Twin Oaks. Thus "my Bob" quickly followed the communards' penchant for renaming themselves. It seems new life styles call for new identities. Both Koala and I have been interested in social experiments and intentional communities for some time. Indeed, Koala had attended a community high school in California. Thus for personal as well as intellectual reasons, I visited Twin Oaks periodically beginning in 1975. My feelings for the place and the people I got to know there

Ingrid Komar was born in Germany and spent her childhood under the shadow of the Nazi regime. She emigrated to the United States and while still in her teens began speaking to church groups as an anti-fascist. She studied modern languages and drama at Middlebury College, and received a bachelor's degree from Western Reserve University. She has written, directed, and produced documentaries for radio and television, and has worked as an investigative reporter. Her translation of The Devil's General by the German playwright Carl Zuckmayer has been published by Random House, and she has worked in off-Broadway theater and at Karamu House and the Cleveland Playhouse. In the 70s she spent several years traveling in Latin America; in Guadalajara, Mexico, she conceived and produced a bi-lingual, multi-media theater piece, Hemisferiana. She has a home in Cleveland but is spending an increasing amount of time these days in Washington.



grew with each stay. Having read Kat Kinkade's *A Walden Two Experiment* (William Morrow, 1973), which details the history of the first five years, I found the community's continuing progress to be impressive, particularly when contrasted with the first few years of difficult pioneering.

During one of my visits in 1979, the communards first discussed the idea of a new book with me. The consensus was that Kat Kinkade's account, though still of considerable historical interest, had ceased to represent them accurately some time before. The community and I agreed on the project of a new study. The conditions were that I live on the farm as though a member for an extended period of time, and that — though I was free to express my personal opinions in writing — my manuscript be checked for accuracy. Consequently, since 1979, I have spent a total of one year living at Twin Oaks in time segments varying from 5 months at one stretch to brief stints of one week. The result was my book *Living the Dream* (Norwood Editions, 1983) and one of the great adventures of my life.

Twin Oaks conceives of itself as a model for ecological and social change and experimentation, though no member has ever told me that the communards have achieved utopian perfection. With refreshing humility they have characterized themselves as "just one of many examples of cooperative development."

In 1967 eight brave people bought a rundown tobacco farm in rural Louisa County. For the first few years, struggling with poverty and conflicts, they were obliged to commute to uninteresting, temporary jobs in nearby towns just to keep groceries on the table. From a material point of view there was precious little to sustain the vision of those who had collectively bought the property that was to serve as a springboard for the new society they intended to create. What they got for their pool of modest savings was a tiny farmhouse, some unimpressive small barns and sheds, and a few fields with soil exhausted from years of pushing up tobacco leaves. Now and then someone contributed a vintage vehicle. A good portion of the property was wooded and bordered on the South Anna, a sizable river, which, though a great recreational asset, provided no income. Though lumber is one of the economic main-

Living the Dream by Ingrid Komar

Readers interested in a more detailed account of Twin Oaks Community may order Ms. Komar's 366-page documentary study, *Living the Dream* (1983), with a foreword by Hazel Henderson, from the publisher, Norwood Editions, P.O. Box 38, Norwood, PA 19074. The hardbound volume sells for \$27.50, postpaid.

stays of the area, the ecologically conscious Oakers oppose the clear cutting that makes it profitable, not to mention that the founders had neither the equipment nor skill for such an operation.

The original Twin Oakers met at an event called the Waldenwoods conference held in Ann Arbor, Michigan, in 1966. Kat Kinkade, the author of the aforementioned book, was the only one in her thirties. A divorcee, she had been a teacher and an executive secretary. *Walden Two* appealed to her passionate interest in social justice. Kat's teenage daughter Jenny was the youngest member of the fledgling community. At this writing, both mother and daughter, as well as Jenny's daughter Robin, still live at Twin Oaks. The other founding members, all in their twenties, left some time ago.

One of the founders, an agricultural extension agent who grew up on a farm, contributed valuable practical experience. Another was a missionary's son who had experimented with drugs before turning to Dr. Skinner's utopian vision. The original group included one married couple. One founder had been a civil rights activist and another, a former philosophy student, had decided to abandon his studies in favor of setting up an ideal society in miniature with the hope that its demonstrable appeal would guarantee its growth.

Now, seventeen years after its founding, the membership of Twin Oaks has expanded tenfold. There are nine new, sizable buildings, collectively built and designed, the most recent featuring innovative uses of solar energy likewise developed on the farm. These capital improvements were produced without benefit of endowments, grants or



Aerial view of Twin Oaks showing courtyard buildings, one industrial building, and some of the communal fields. Other buildings are in the woods.

subsidies of any kind, and are a tangible testimonial to communal labor and achievement. They are not even mortgaged. Some of the structures are for purely industrial purposes. The majority, however, consist of both residential and work areas. In this communal setting, work and play are so gracefully blended as, at times, to be indistinguishable.

For some time Twin Oaks has been economically self-reliant and stable. No longer is anyone forced to work outside the community. The communal economy is androgynous: men and women engage as equals in freely chosen tasks in the ecologically enlightened agricultural program, in its production for market of handcrafted hammocks and casual wood and rope furniture, and in decision making, child care, and various support systems.

The early years were marked by desultory forays into agriculture. A more concerted effort to generate income from farming was made in 1979, but it produced loss rather than profit. Currently the farm, garden, and dairy operation is run purely for domestic use, and in this form it enhances the quality of life by furnishing organically-grown grains and vegetables as well as milk products from a dairy herd fed on chemical-free feed. Further, it maintains and continuously upgrades the tillable acreage, and carries out the theme

of self-reliance in other areas, such as machinery and auto repair and construction.

Twin Oaks' founders were inspired by *Walden Two*, the utopian novel by the behaviorist B.F. Skinner. But Twin Oaks can no more be defined by behaviorism than any other philosophy or school. None of the original eight members were psychologists, behaviorist or otherwise. Since "to tolerate and embrace diverse beliefs" has always been a communal core value, as early as 1970 Twin Oaks adapted aspects of the Human Potential Movement, Eastern spiritualism, feminism, and other so-called "New Age" ideas to its needs. Nevertheless, Skinner's novel had a major influence, particularly on the organizational structures and systems, even though it was Skinner's utopian dream rather than a literal application of behaviorist techniques that attracted the founders.

It is readily apparent how the goals of *Walden Two* appealed to the socially conscious would-be communards of the 60s. The novel advanced a post-Freudian, therapeutic approach to utopia, designed to eliminate the violence and chaos of modern life by behavioral engineering, primarily positive reinforcement. *Walden Two* integrates technology into its egalitarian, non-competitive economy, but clearly subordinates its uses to ecological considerations.

In 1967 Twin Oaks was no less a product of the counter-culture than other groups that quickly disbanded or fell apart, but Skinner's novel, by establishing significant areas of agreement among them, provided a unity of purpose and saved them inestimable amounts of time and energy, and spared them frustration. Though the pioneers genuinely welcomed anyone seriously interested in communal living, they created an atmosphere that discouraged mere dreamers — those not *living* the dream. Those who came to the farm looking for drugs or other forms of escape soon left of their own accord or, in some instances, despite the membership's reluctance to be exclusive, were asked to leave.

In Twin Oaks, as in *Walden Two*, work is a requirement, although the kind of work is open to choice, including the possibility of more than one kind of work — mental and physical, for example. Work is organized by labor credit system. All income and most property is shared. Economic collectivism extends to communal housing and a communal kitchen, which also make for a more efficient use of energy sources and labor than individual households. Communal child care leaves parents, and particularly women, free to pursue their own development, and saves children from complete dependence on the possibly neurotic quirks of two adults as well as from neglect, overprotection, or abuse such as Skinner had observed in the contemporary nuclear family.

Walden Two is governed by a planner-manager system which, although it invites participation from the membership-at-large, operates on the premise that everyone ought to be able to assume that decisions are made in the interests of the people, whether or not they take an active role in government. The compulsory rotation of the planners, the complete absence of titles, heroes, or leaders, and the fact that it is impossible within *Walden Two* to accumulate wealth or power — all help to guarantee that government will not become the tool of the corrupt or power-hungry. Skinner's planners operate as scientific "experts" outside political pressures, and are thus free to test their programs experimentally. Twin Oaks has retained this experimental approach to this day, notwithstanding that no real, live communitarian planner ever pretended to the expertise with

which Skinner endowed the planners of his imagination.

The foregoing are the salient features of the *Walden Two* design which, independent of any formal connection with Skinner, Twin Oaks adopted in 1967. In broad outline these systems still operate in the community. In their specifics they have all undergone significant changes, starting with conceptual revisions made at the first Waldenwoods conference where the founders came together. Moreover, there is every reason to anticipate further experimental modifications in the future.

The best picture of Twin Oaks ideology is contained in the latest Value Statement formulated communally in a series of exercises conducted during the summer of 1979 and dubbed the "Social Planning Process." The following summary represents the latest revision of earlier statements.

Values Statement

From Social Planning — April 19, 1979

We are trying to form a community which:

- will survive
- has a collective economy and government
- cares for the basic needs of its members
- and is egalitarian

We choose to:

- be both a home of our members and an example of communal living and experimentation
- exercise intentionality in our decision making and day to day functioning
- raise our children in common
- be non-punitive
- honor members' privacy
- tolerate and embrace diverse beliefs
- act with concern for the environment
- work towards self-reliance
- offer choice of work to our members

We expect our members to behave:

- non-violently
- with honesty, gentleness, responsibility, and commitment
- to exhibit cooperation
- and to work their fair share

We expect our behavior as individuals and as a community to eliminate the attitudes and the results of:

- sexism, racism, ageism, and
- competitiveness.

Of course it takes work to make all this work — in many senses of the word. In practice, cooperative existence requires at least as much, if not more, attention to the often petty details of daily living than it does to major philosophical questions. Yet in my extensive

stays on the farm, it was work that I enjoyed most, for in the environment these people have created I deepened my appreciation of work's intrinsic joys and satisfactions. Should you visit the community, it is likely that your first observations will include communards at work.

Anyone's trip to Twin Oaks involves a last leg along winding roads through the gently rolling Virginia countryside. The long driveway into the community cuts through a huge vegetable garden and ends at the edge of what Oakers call the courtyard, a grassy oval surrounded by four buildings and a couple of sheds.

The courtyard is the downtown of the commune. Except during the very cold months or rainy weather, a good many people congregate here. You are likely to see children playing under the fruit-trees with some adult in casual attendance; small groups are holding meetings around one of the picnic tables; a couple is cuddling in one of the hammocks; someone is reading on one of the balconies, practicing the guitar, or just sunbathing.

Once membership and economics passed the first critical stages, the courtyard also began to blossom aesthetically. Depending on who manages the landscaping, the flower beds can be quite picturesque. In the early Virginia spring the sun is often delicious, and as soon as it radiates warmth, the weaving jigs are hauled out of the hammock shop. Then pairs of workers drift outdoors to weave the commune's principal product while chatting and sunning. Neither is it uncommon to see some jean-clad person operating a calculator under the blue sky. Or perhaps the cooks have emerged from the kitchen to peel apples for that evening's pies.

Whatever part of this probable scenario is observed, it is a reflection of Twin Oaks' system of worker-management that it not only allows the workers to arrange the most attractive and healthy conditions possible for their labor, but also permits them to add the interest of socializing to otherwise monotonous jobs. Friends or lovers often do certain jobs together, and some of the work actually takes on a quality I imagine to have infused earlier quilting bees or barnraisings, frequently a downright party atmosphere. Indeed, to end the fragmentation of modern life—to blend work, play, learning, and socializ-

ing—is one of the aims of the community, an aim that transcends efficiency goals and rigid economic doctrines.

This idyllic tableau gives a lot of visitors the first impression that Twin Oaks is some kind of bucolic retreat, especially when they arrive fresh from a hectic city environment. The impression is only partially accurate. True, compared to the tightly scheduled lives most urbanites lead, there is a quiet flow to Twin Oaks' pace, a dulcet rhythm of dawn, dusk, and night skies and the seasons' steady progression. But other aspects of communal life add enough tension and excitement to preclude boredom. There are always several controversial issues being discussed; a few personal dramas are usually being acted out, and the seasons, so lovely to watch, also make stringent work demands that can only be ignored at a stiff price.

Among other clichés one should be ready to abandon when visiting Twin Oaks is the one about the "type" of personality that joins a commune. Even a cursory survey of the membership should prove that, in essence, there is no such type. The most significant statistics are that Oakers have an average of two years of college, are generally well above average intelligence, and that the average age in the community is 32. Beyond these few characteristics, generalizations become invalid. Some communards delight in being eccentrically outrageous from time to time; others could pass the most conservative conformity standard in behavior and dress.

Some members have had successful careers before joining; others, particularly very young people, come with little or no training, and for them Twin Oaks is frequently a "School for Living." Scot, the office manager in 1979, had been a well paid systems engineer, living the "good life" of a successful bachelor, before he joined. Another visitor who eventually joined the community was young black from Harlem whom the local employment office had labeled "unskilled." During my own stays on the farm, I have met many visiting students and teachers, retired couples in their seventies, gays (for whom special outreach efforts were made), a divorced secretary, nurses, psychologists, a middle-aged woman street-poet, a retired bookkeeper who was a fruitarian, a young working-class Italian-American from the Bronx, an energetic theatrical set designer



Male "meta" with charges on farm road.

who was raised on a midwestern family farm, physically disadvantaged people, a female computer programmer, an ex-WAC, a young man just discharged from the Navy who had served on a nuclear submarine, and folks from Georgia, Iowa, California, and all over the world. A good many of these visitors became members.

Often groups that have a centralized ideology exude a ponderous air of self-importance. Diversity at Twin Oaks, on the contrary, is likely to develop a sense of humor even among its most serious members. Sooner or later exposure to the many viewpoints represented develops a measure of objectivity that fosters smiles and laughter. In skits and theatricals the communards frequently make fun of themselves and the establishment with equal zest.

Still, passions are apt to rise around relatively minor (or trivial) matters, in Oakese lingo known as "dog issues." Unfailingly, whenever a prospective new member requests that "cos" [Twin Oaks for "his or her"] pet be admitted to the community along with "cos" owner, the same old battle lines between pro-dog and anti-dog Oakers are drawn, and the pros and cons of admitting the animal are discussed at close to ludicrous lengths in opinion papers posted on the communal bulletin board.

Dog issues extend to matters beyond the canine world as well. Community-wide events are fraught with dog-issue hazards. One holiday season the children spent a whole day cutting a Christmas tree in the woods, bringing it to one of the buildings, and decorating it with popcorn and cranberry

chains. The tree was put up in a large room where a solstice dance was scheduled that evening. When the leader of the dance walked in, he was outraged at the intrusion of this symbol on the community as a whole. Minority opinion is considered as valid as the majority view at Twin Oaks, and the holiday manager, unable to effect a satisfactory compromise — like cutting the tree in half, either vertically or horizontally — ended up draping it with a sheet for the duration of the festivities.

Some members also voiced heated objections to the use of a sickle in a harvest celebration centerpiece, claiming that the tool was associated with Soviet communism. Although the sickle caper gave rise to an interesting paper dialogue concerning symbols that extended to the Sanskrit origins of the swastika, in general, dog-issue debates tend to take up more time than seems warranted. Perhaps because the communards relinquish a good deal of control over the material aspects of their lives to the group, seemingly minor questions at times assume an exaggerated importance for some individuals.

Membership turnover is considered a problem; yet an appreciable number have left only to return a year or two later, despite the fact that this means going through the membership process all over again, and being a provisional member for six months. Only a very few of those who have left have done so with bad feelings. Most former members return for periodic visits and are warmly welcomed.

While no fee has ever been a requirement of membership, and although the

credits listed on most résumés are largely irrelevant, other criteria definitely have to be met. Primarily the community wants a reasonable assurance that the individual is going to be happy living in its midst and vice versa. It looks for positive motivation and discourages lost souls who are simply willing to settle for this way of life because they can't think of anything else to do. While there is complete tolerance for a wide spectrum of belief systems, interests and sexual preferences, there is little tolerance for anyone who is pushy, aggressive, argumentative, or negative. And because they take up too much air-space, compulsive talkers are also considered pariahs.

Twin Oaks considers food a very important part of the quality of life. Approximately 70% of what is consumed is home grown according to organic methods. The cooking staff is large, and since it is rare that any one person prepares more than one meal a week, the fare avoids institutional monotony. The chefs cater to every dietary preference at every meal — from the most orthodox vegetarian regime to the meat and 'taters crowd.

Each member has a private room, and, just as in *Walden Two*, couples have two rooms. The entire second floor of one of the buildings is taken up with the Community Clothes Collection, arranged like a small department store — without prices. The political radicals of the 60s dubbed it "Commie Clothes," a typical example of Twin Oaks humor. Any member is free to forage in Commie Clothes, and to carry either one item or an entire wardrobe back to "cos" private quarters. Once there, they are personal property and, of course, one may keep clothes otherwise acquired for one's private use. Unusual items, usually shoes, are ordered from the Commie Clothes Manager. The sums spent are allotted on a more or less egalitarian basis according to the Clothes Manager's budget.

The community furnishes medical and dental care, even various types of counselling and psychotherapy when requested. These services are administered by a Health Team, for whom the physical well-being of the membership is an important goal. A good deal of in-house care, ranging from para-professional to professional, is available on the premises.

In the words of one of the founders, "Twin Oakers are child crazy," and the level of devotion in child care exceeds anything that money can buy in the fanciest American suburb.

There is an extensive library, including periodicals, and a cornucopia of recreational options. Everyone receives the same allowance, at present \$28 per month, to be used exclusively for luxuries (candy, alcoholic beverages, records, or outside entertainment). Although the community brews its own beer and wine, most Oakers would like to see the allowance increased, notwithstanding the fact that the members themselves develop the economic plan that allots it. Occasionally, under specific conditions too complicated to go into here, it is also possible to earn extra money and to work outside the commune and keep the earnings.

In exchange for all of the above, all members are expected to work the same quota of hours per week, a figure that has remained pretty consistently between 43 and 47 hours. One can distribute these hours very flexibly over the day or week, subject only to imperative needs of the community. (*Somebody*, for example, has to get up and milk the cows.) The quota may seem high, until one considers the following: none of anyone's free time is eaten away by commuting, shopping, car or home maintenance, child care, laundry or food preparation. Assuming there are vacancies, one is free to express a preference for a particular job, even when lacking expertise. The right to apprenticeship is highly respected, particularly for women in non-traditional roles like auto repair and construction, and likewise for men in child care and domestic labor.

The considerable variety of jobs include: office work, including computer operations; machine, wood and auto shop; all phases of construction (for the Twin Oaks construction company which works in the county as well as inside the community), building maintenance, architectural design, land planning, running the community sewage plant, health services, milk and food processing, cooking, baking, child care, teaching, library management, magazine publishing and editing, indexing for outside publishers, forestry, gardening, farming and animal husbandry, landscaping, managing community clothes, conducting visitors'



Twin Oaks women work on construction under solar roof.

tours and leading folk dancing. And naturally, the community needs workers for its principal industry, hammock weaving, and chair production, as well as associated functions: graphic design, product photography, sales management, shipping jobs. Gypsying to craft fairs, where, besides its wholesale accounts, Twin Oaks sells its wood and rope products, is a very popular assignment.

While work choices offer considerable latitude, two communal chores are obligatory. Every member must take turns on dishwashing shifts and bathroom clean-up rotation. That works out to roughly 1 1/2 hours of dishwashing per week and an equivalent amount of bathroom clean-up every two or three weeks.

In keeping with the egalitarian framework, the amount of labor credit is the same — one hour is worth one hour — whether you are wrestling with tax questions, cleaning out the calf pen, washing dishes, teaching ballet to second graders, serving on a managerial council or researching a new solar energy system. The labor credit system started out differently, namely along behaviorist lines with a complicated bidding system that awarded labor credits in reverse ratio to the popularity of the job. Accordingly, dishwashing, which was the least popular, might get 1.5 credits per hour, whereas cultivating the fields with the tractor might get only .9 per hour. Reputedly the system was abandoned on purely pragmatic grounds; in *Commitment and Community*, Rosabeth Moss Kanter documents the negative effects it had on the cooperative spirit.

Although I personally would like to see

Twin Oaks experiment with rewarding certain types of work more highly than others (perhaps monetarily, perhaps in non-monetary ways or both), in essence I found these arrangements truly wonderful during my extensive stint as a participant-observer on the farm. Elsewhere I might well have thoroughly disliked many of the mundane tasks I performed. To my surprise, at Twin Oaks I repeatedly experienced emotional highs while "making quota." The mere fact that these routine labors didn't come up daily relieved them of the drudgery experienced by housewives or anyone else forced to do repetitive work.

For hardly any member fills the entire labor quota in one area. One may choose to do so, and some positions demand it. Nonetheless, the typical working pattern distributes work over at least three areas, perhaps 50 percent in the woodshop, 30 percent in child care, and 20 percent driving one of the vans into Richmond for a shopping trip. The number of work combinations possible is extensive. Frequent job changes are also common. While minimum time commitments are required for child care, teaching, and certain managerial positions, and for the privilege to apprentice in some areas, there still remains considerable freedom to experiment with new work roles.

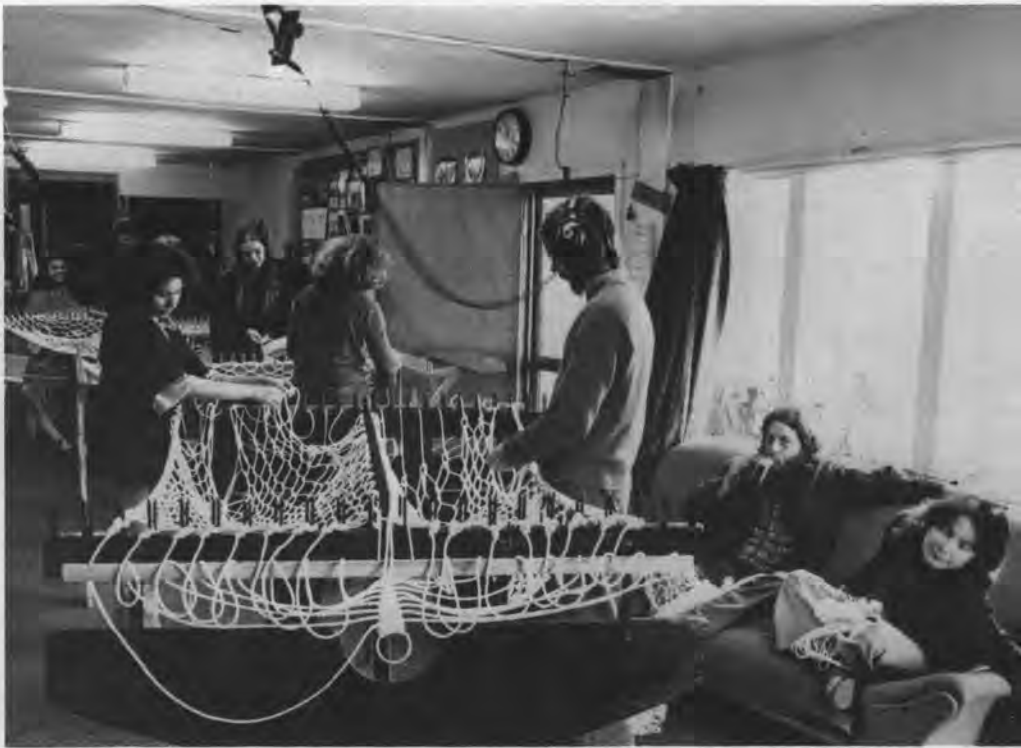
Despite the transformation Twin Oaks has effected around work, problems still exist. Some are related to the personalities the communards bring with them. There are probably more workaholics than shirkers. Yet neither group can qualify for the happy, productive, and healthy personality of the

utopian standard. And Twin Oaks has a clear morale problem in the hammocks industry, its principal source of cash income. Some of the causes are readily understandable. The hammocks are made of polypropylene, an oil based product. The use of this non-renewable resource is ideologically objectionable to most of the membership. Some also consider hammocks a luxury item, and would prefer relying economically on something that is a genuine necessity of life.

Twin Oaks hammocks are sold around the country by major chains, both department stores and casual furniture outlets. Wholesale accounts make up 65 percent of the hammock sales, the remainder being retail sales mostly at craft fairs all along the east coast. The community drifted into the hammocks industry through a combination of chance circumstances, unlike most of its projects, which result from research and planning. The hammocks business was unusually seductive. It required little or no capital investment, and the basic skill is relatively easy to learn. Most visitors master it in a week or so. For some years, hammocks have accounted for well over half of the community's

income, paid for new buildings, and in essence supported the farming operation. None of this has helped hammocks' popularity. The most significant split among the membership is between the "pro-product" and the "anti-product" people. The "pro-product" bunch is in the minority, allowing for a sizable group in between that grants the industry a grudging acceptance, but certainly nothing approaching enthusiastic support or participation.

The most commonly heard complaint is that the work is boring. Yet the shop is enlivened by music, conversation, and special snacks. Compared to working conditions the world over, conditions in the hammock shop are posh. The hammock jigs are set up so that two people work opposite each other, and shifts are routinely used for meeting, either business or pleasure. The shop is a social hub of the community, where lively informal discussions take place, frequently sparked by interesting visitors. When the option to work outdoors is not attractive, it is decidedly cozy inside. One task in the production process can be performed on a couch along one of the walls. The whole room is carpeted. A sophis-



The hammock shop.

ticated sound system and a jack at every work station allows the weaver to listen to the tape, radio station or record of "cos" choice on ear-phones. There are frequent literary readings. The management organizes theme parties of comedy records, women's music, ice cream socials, bar nights, etc. All kinds of food is served as "positive reinforcement": cookies, popcorn, antipasto.

According to a number of different plans, monetary incentives have been offered to boost production when the orders demanded it, both group and individual incentives. For one period, group incentives were tangibles, like a new set of speakers for a public area or a canoe when a week's production quota was collectively met.

All of this is just band-aid economics applied over the gash to the communal body that lack of responsible participation represents. The plain fact is that too often it is hard to get the product out. The bread and circuses are frequently only a crisis strategy. There is also a perpetual management crunch, since egalitarianism is not particularly helpful to management. Twin Oaks has talked a lot about this dilemma, which is not to say that any solutions have been implemented.

So, with varying degrees of good humor and enthusiasm, Twin Oakers participate in the hammocks industry. It is in the nature of a behaviorist joke on themselves. After all, they themselves design the programs to which they submit. No one *has* to weave hammocks to fill the labor quota. If these pigeons step into the hammockshop box to peck away at pellets, it is in the final analysis only because they exercise the very free will whose existence Dr. Skinner denies.

Fascinating questions are raised by the experimental economics at Twin Oaks. It is difficult arbitrarily to decree what constitutes economic responsibility in an income-producing industry when obviously work in other areas also has indispensable value (food production, child care, construction, to name just a few). In other words, genuine economic value and the dollar are not necessarily synonymous, as they are in traditional economics. In point of fact, an intentional community like Twin Oaks is much more than a worker-controlled industry. In the words of David Ruth, an ex-sociologist and longtime member, it is "both a set of households and a socio/economic unit. An inten-

tional community takes on responsibility for its members normally assumed by the extended family and/or the larger society's welfare system" ("What Is Twin Oaks?" unpublished paper, 1978). Seen from this perspective, the community is merely a microcosm of our world and poses relevant challenges to our longheld values and assumptions. We all live in the planetary community, and we must find a way to live cooperatively within our given resources or perish.

In adopting the planner system from *Walden Two* as the decision-making process to cope with these questions, even early Twin Oakers quickly dropped any pretensions to expertise in the "science of behaviorism." Over the years a great deal of energy has been spent by planners to involve the full membership in community decisions. The intimacy of community life affords a great many avenues for this. Oakers are wont to buttonhole planners anywhere they bump into them to dish out "input." Papers posted on a communal bulletin board are another standard vehicle for participation. As to the formal weekly public planner meetings, however, only a minority of members regularly attend.

The planners view themselves as facilitators in the decision-making process. Such modesty is no mere pretense. Whatever power pertains to the office is seriously circumscribed. As in *Walden Two*, the planners have no police force at their disposal to enforce unpopular decisions. Furthermore, they live and work very closely with the people whose lives their decisions affect. Twin Oaks has erected another safeguard to circumvent the system's inherent autocracy. The planners serve staggered terms of 18 months, which is intended both to insure a continuity of experience as well as to thwart the coalescence of power among the triumvirate. In practice it is perennially difficult to get anyone to accept the nomination for the recurring vacancies. Past planners have pronounced the office to be alienating, and the sense of responsibility overwhelming. While considering the post, one candidate wrote, "You can look forward to a year and a half of reconciling 70 people's differing utopian dreams."

Those who accept the challenge are almost always analytical types who enjoy problem solving. Yet these very abilities create the

same rift that they complain causes alienation. The romantics who delight in spontaneity and the expression of feelings do not care to attend what they characterize as "boring meetings" which they claim "disempower" them. The planner types retaliate by labeling the stayaways as apathetic. In fairness to the planners, it must be conceded that they do their best to liven up the proceedings with skits, visual aids, and by breaking up its assembly into small groups. Yet nothing is ever decided at public planner meetings. They are merely a means for collecting opinions with which the planners later wrestle in private to formulate a decision. The planner system is thus by no means an effective participatory democracy. Oakers have made several attempts to change the system, but none has as yet succeeded.

Thus in both the economic and political spheres, the major problems of the Twin Oaks model are those of participation and social responsibility. But in other respects than these the community's achievements are more noteworthy. In seventeen years Twin Oaks has created a culture and way of life that has much to recommend it, and that presents a genuine alternative for people who want to integrate their politics and values with the way they live day to day, minute to minute. Oakers describe this life style as voluntary simplicity — which is not to be confused in any way with self-denial or asceticism. Both from a material and a spiritual point of view, I found it to be a rich life.

No member of the community owns a private car or a private TV set. As to television, most of the membership objects strenuously to the sexism and violence on the screen, and views the endless commercials as stimulating the very consumerist appetites it is trying so hard to curb. Others fear that the tube's hypnotic powers will sap members' creative energies. The community does own a videotape machine which allows them to film community performances and events, and to compile a visual record of its cultural history. Videotaped movies and educational films are also shown, at minimum once a week in one of the public rooms, but the door to the uncensored broadcasts of the commercial networks remains firmly closed.

Every actual door at Twin Oaks, on the other hand, opens to the great outdoors, a communal park that is treasured. The main

attraction here is probably the river. From May through September Oakers swim, canoe, row and fish the South Anna. There have even been meetings when the committee floated in cool comfort ensconced in inner tubes. When the river freezes they skate on it. Their woodlands are criss-crossed with paths maintained by the forestry crew. Hammocks and retreat cabins are scattered among the trees. There are many inviting sites for camping out. Community picnics in the hilly riverside pastures usually end in softball games in the flats. A team plays volleyball competitively in the county, as well as almost every evening when weather permits on the farm. There is ample inspiration for excursions by wild flower enthusiasts and bird watchers. Most joggers and bicyclists would prefer Oakes country roads to city pavements. A few communards play tennis on public courts in Richmond. Others exercise the horses on a neighboring farm. Some hunt and contribute the venison to the communal table. Classes are organized in modern dance, aerobics, aikido, taichi, yoga, figure and landscape drawing, batik, Esperanto, German, Spanish, Italian. Native speakers — either recent emigres or longterm visitors — teach the languages. There is always at least one band, usually rock, but musicians who don't fit into the genre manage to find each other for anything ranging from "olde time" fiddle jamborees to classical guitar and flute duos. A kiln for pottery making stands in one of the orchards. Homemade sculptures punctuate meadows and groves of trees. Twin Oaks holidays feature theatricals, some by Oakes playwrights. There have been dream and massage workshops and other groups organized around personal growth exercises. There are men's and women's support groups, some socially conscious, some purely social. One can find partners for most board and card games.

Small groups gather in their preferred religious celebrations, but in order to avoid offending anyone's religious sensibilities — including those of the atheists — the official Twin Oaks holidays are seasonal ones: the vernal and autumnal equinox, the winter and summer solstice. For these red-letter days the holiday committee takes care to have some event in the all-day program appeal to the many different tastes and belief systems, to design something for the neopagans as well



Twin Oaks children in one of the river's shallow spots.

as the traditionalists, the contemplative and the exuberant, the children and the adults. Past programs have included communal singing, outdoor games, projects like making sand candles, native American rites, group walks to enticing destinations, and sweats in the hut by the river culminating in dives off the bank. There is always a community banquet, and the obligatory finale is a Twin Oaks dance.

Twin Oaks dances are the hallmark of the culture. The costumes alone constitute a show, a hilarious commentary on past and present civilizations. It is amazing what these people can put together from the constantly replenished partywear and accessories in Commie Clothes. More than anything else, however, the spirit of these dances celebrates the vibrancy of the group. To participate, no partner is necessary; neither are dance lessons a prerequisite. Oakers dance alone, in twos, threes, fours or more — men with men, women with women, children with adults. It is a carefree mixing of humanity generating all kinds of warmth. They sing along with their favorite tapes, shout, holler, and stomp. The net effect is something like the Hallelujah Chorus and group levitation mixed together. But these cultural events are not confined purely to heralding in the seasons. Twin Oaks holds at least one dance every month.

While members are not stuck with the cost or the irritation of maintaining a private vehicle, neither are they stuck in the sticks

without one. They maintain communal vans that travel to concerts, museums, and other events in Charlottesville, Richmond, and Washington, D.C. A certain amount of effort is required to round up a sufficiently large group to warrant the trip: the members do more than pay lip service to the idea of energy conservation.

It is impossible to give an exhaustive account of the recreational activities of Twin Oaks. But the point should be clear. It is more exhilarating to be active than passive. Non-consumerists have more fun.

When the mainstream culture raises an eyebrow about any experiment involving social change, it often finds sexual promiscuity the most obvious reason that anyone should want to leave the system. The usual assumption is that any dismantling of the nuclear family (Roszak, 1978, calls it "the diminished family") — or, God forbid, its extension — is the work of the devil.

The dictionary defines "promiscuous" as indiscriminate, random. This word is incompatible with the word "commune," since, when promiscuity does exist, it is apt to destroy the cohesiveness of the group rather than preserve it, much less cause it to flourish. (This was one of many problems of communal experiments in the 60s). Certainly some nineteenth-century American communes had sexual practices most of us consider bizarre, but contrary to popular misconceptions they were anything but pro-

miscuous. Rather, they were strictly regulated, albeit usually according to fantasies stretched to philosophic ambition by some charismatic leader.

In keeping with its tenet to "tolerate and embrace diverse belief" Twin Oaks had only one option as to sex practices — that of sexual freedom. It would have been totally inappropriate to demand they forego monogamy in favor of other sexual arrangements.

Some sexual taboos do exist at Twin Oaks. The Core Values interdict violence. *Playboy* and other pornographic publications are banned from public areas, not because they are *sexual*, but because they are *sexist* and degrade women as objects. This, along with the ban against commercial TV, is the only instance of censorship in the community. And the Child Board, protectively vigilant about three little girls entering pre-puberty, felt called upon recently to declare incest and pederasty unacceptable, though I hasten to add that there have been instances of neither on the farm.

With these exceptions, any sexual practice that exists in the rest of the U.S.A. is free to exist at Twin Oaks. This is not to say that communal life does not affect sexual relations, sometimes painfully. When there are difficulties in a love relationship there is no way to get away from each other. When one partner abandons a lover, the rejected person has to cope with the spectacle of the new couple's togetherness at a community function. It is also a strain if the couple that has split up or quarreled works in the same area.

On the other hand, the public nature of intimate affairs also carries certain benefits. The clandestine affair is virtually impossible. Nor does the community encourage the impersonal sexual encounter characteristic of the singles bar scene: whoever chooses to be casual about sex must face a partner for many mornings after. Moreover, while the members do not fret about the sinfulness of intimacy, they are sincerely concerned about the happiness of their friends, and are likely to look askance at anyone treating them in a cavalier fashion. A great deal of the therapy supported by the community is provided for people who are having difficulty in a love relationship or who complain of the lack thereof. In this connection Twin Oaks has made special outreach efforts for its small minority of gay members.

Yet celibacy, whether by choice or lack of opportunity, is probably more comfortable at Twin Oaks than elsewhere. Hugs and affection are freely dispensed. Moreover, the expression "sleeping together" is not a euphemism for sexual intercourse among Oakers. Like so many puppies and kittens, people sleep with each other and the children, whenever one or the other needs the warmth and support that can provide. No one needs a "date" to participate in the frequent happenings and outings. To be single condemns no one either to loneliness or to segregation in singles groups. The norm is to treat individuals as such, not as "couples." Most members also learn sooner or later, either by experience or by example, not to put all their emotional eggs in one basket, and to maintain a circle of friends beyond their primary relationships.

Perhaps most significantly, love relationships at Twin Oaks are uncontaminated by money and are not subject to the prestige our society attaches to position or possessions.

Further, couples who meet at day's end do not have to bridge the sharp dichotomy that exists outside between work and private life. And since domestic work is accommodated under the labor credit system, issues like "who takes out the garbage" — are nonexistent. In this environment the relationship comes much closer to the bedrock of what can be created between two human beings and their children, if any.

The Twin Oaks child program is unique, and perhaps one of the greatest boons of cooperative living for adults and children alike. Until they reach school age Twin Oaks youngsters live in the children's house. The people who take care of them are called "metas," an Oakese abbreviation of the Hebrew word *metapelet* that describes their counterparts in Israeli communities. Unlike the exclusively female staff in Israeli kibbutzim, however, both men and women participate in child care at Twin Oaks, starting with infant care. In fact, more than half the metas are men. Yet parents have both responsibility and power in the policy decisions of the child program.

Even an only child enjoys siblings on all sides, as well as intimate, continuous relationships with the adult staff or metas and teachers. The amount of labor assigned to

child care is a measure of how highly Twin Oaks values its children. The ratio of metas to infants and toddlers is currently one adult to three children (exclusive of nursing mothers). But that is not all. In addition to the relationship with metas and parents, each child benefits from the individual attention of at least one, and often two persons whom Twin Oaks calls "primaries." A primary is any adult — not necessarily a biological parent — who may or may not be part of the child staff, but who has a special (primary) relationship with the youngster and who regularly spends time with it on a one-to-one basis.

The primary relationship is voluntary for both parties; the children, as soon as they are capable of expressing a preference, have an equal voice in its initiation, continuance, or dissolution. The benefits of this system are substantial: 1) people who are childless for either biological or social reasons, can enjoy a close relationship with a young person. 2) The children have a variety of role models who enrich their experience by sharing special interests and skills with them. 3) Since child care even by a primary is credited as work, the time conflicts that exist for parents in our society — career versus participation in their offspring's development — are greatly relieved. 4) Since the primaries are almost certain to play a variety of different roles in the community, they offer their young charges an equivalent variety of approaches to communal life. The children thus become familiar with and integrated with the totality of communitarian existence, rather than being seg-

regated from the working world as they are in our urban or suburban culture. 5) When spending time with a primary, children can bask in the undiluted warmth of an adult's sole focus, and so have some relief from adjusting to the group all the time — a luxury children in large families rarely have. 6) Finally, the system allows great flexibility in the ways parents can be with their children.

Twin Oaks children also have contact with the outside world, not only when they visit their grandparents or go to museums, etc., but also by way of a group of ex-community members who live in a land cooperative very close by. This group preferred to live as individual nuclear families rather than to share in domestic work and communal child care at Twin Oaks. This difference has not prevented them from continuing exceedingly friendly relationships with their erstwhile community. The two groups and their children socialize with each other regularly. This pattern of contact with traditionally raised children is continued in Oakley Primary School, which Twin Oaks runs cooperatively with the aforementioned ex-members. The school is also attended by other children from the surrounding county.

Twin Oaks children enjoy great physical freedom afforded by rural life. They are also extraordinarily sophisticated in verbal and social skills, and at ease with adults. Although no attempt is made to indoctrinate them as to the alleged superiority of their way of life, they naturally learn to share and to deal with conflict at a very young age. The egalitarian respect accorded them breeds a



A meta romps with his charges.

healthy assertiveness. With amazing ease they slip into even the formal procedure of their immediate social environment. A few years ago a group of 5- to 6-year-olds requested permission to make a formal appearance at a meta meeting. They wanted to present their case against the continuance of naps and midday quiet time. As one might expect from Twin Oaks metas, the request was granted. Indeed, the children's pronouncements on this historic occasion were duly recorded in the meeting's notes. They make delightful reading. "Everyone in community should take a nap," declared one of them, applying perfect logic to a kindergartener's perspective of egalitarianism. One little rambunctious boy asserted his right to a "support person" from among his peers when he was called on the carpet before the assembled metas for some objectionable behavior. Not only that, he was astute enough to pick the greatest child advocate and champion of justice among his contemporaries!

It must also be stressed that, despite its communal nature, the Twin Oaks child program lacks any trace of the institutionalism ascribed to the U.S.S.R. and that some of the literature attributes to the kibbutz. These children are anything but carbon copies of each other and, notwithstanding extensive contact with other adults, they exhibit an amazing amount of parental influence in their personality structures, perhaps because of heredity.

Lest all this sound too utopian, it must be pointed out that these arrangements also have their disadvantages. Communal child care demands the surrender of a certain amount of parental authority and control. It is very hard to share the upbringing of one's child with so many adults, to reach agreement on dozens of trivial matters. When one disagrees with those other adults, it can be most trying. The difficulties are compounded by the size of the meta staff. For a brief period, while fewer babies were born, it was reduced. With a new crop of infants it is again up to 13. This is an unwieldy group for decision-making purposes, especially when it is swelled regularly by parents who are not metas. The staff's size is a trade-off on a number of counts. To prevent meta burn-out, no meta shift is longer than four hours on any single day (except for the night meta). The short shift also allows metas (be they biologi-

cal parents or not) the opportunity to work in some other area, and thus frees them from exclusive confinement to a child's world. Were the metas united on some basic theory of child development, the size of the staff might not be a problem. As one might guess, among the diverse Twin Oakers they are not so united. In fact, a couple of new parent-metas have stated (for reasons that I can neither explain nor justify) that they "don't believe ANY theory"! and therefore categorically refuse to open ANY book on the subject as a possible basis for dispassionate discussion. Of course, this translates to their insistence on whatever "theory" they happen to invent, which strains cooperation to its outer limits.

The program outlined above bears little if any resemblance to the *Walden Two* conditioning, where children and staff alike marched a straight behaviorist party line. Dr. Skinner's aim "to attenuate the tie between parent and child" (*Walden Two*) "never happened at Twin Oaks. We copped out before we ever began" (Kat Kinkade's testimony in *Living the Dream*, 1983).

Although Twin Oaks is acutely conscious of the ecological impact its activities have on the acreage under its stewardship, as a group it has never been preoccupied with zero population growth. While some monogamous couples don't want to have children, for whatever reason, the decision to embark on the adventure — or the decision not to — is a private affair within the limitations of communally planned parenthood, which in turn is subject to the economic plan. This does not mean that accidental pregnancies are subject to forced abortions, though social pressure probably encourages care.

What it does mean is that any woman's decision to become pregnant has to be approved. Pregnancies are supported with labor allowances according to need and/or request; breast feeding receives labor credits for ten months. Child staff is a limiting factor, and space in the children's house is also taken into consideration over and above other attendant, ordinary medical costs.

In practice these considerations did not present a serious problem until 1983, although in anticipation of competing would-be mothers, criteria for who would have priority were established some time before. In brief, older women receive preference over

younger ones. Those with serious health problems are discouraged. The willingness of the prospective parents to go along with the child program as it may be defined at the time of their decision is also discussed. According to the written report of a Child Board member, last year's pregnancy planning involved bitter and angry exchanges for the first time in 16 years.

It seems Oakers tend to forget that millions of American couples postpone having a family until, according to their standard of living, they feel they can afford one. Perhaps a fact is the best comment here. No couple has left the community because they were asked to postpone having a child for a year.

Birth, one of the great dramatic points in life, has been played out with typically diverse Oakese variations. Appropriately enough, the mother is the director of this production. Everything that happens or does not happen is according to her wishes. A fair number of Twin Oakers have given birth in the hospital, sometimes merely because complications were anticipated. In compliance with state law, home births in Virginia, if attended by midwives, must be attended by a doctor as well. At Twin Oaks, however, there are usually a whole lot of other communarians present unless the mother restricts the audience. It is believed that most people don't appreciate the amount of effort required to bring forth a human life, and that when a woman goes off to the hospital and returns, smiling, with a baby in her arms, this void of knowledge remains. Thus quite a few births have become community events. The latest are on videotape.

The young community always anticipated births. Not until the mid-70's, however, was it prepared to face death communally. In 1976 the communards admitted a very special 18-year old, knowing he had a rare, virulent form of cancer. His name was Seth Arginteanu. Seth's prognosis was not encouraging, though not hopeless either. Above all, he had such an intense will to live, wanted so fervently to join the community, and gave such high promise of contributing a great deal to it, that he was accepted. In times that were still economically pinched in comparison to the present affluence, the decision was not made lightly; it was the subject of a public planner's meeting — a totally unique admissions procedure. The question of how

Visiting Twin Oaks

Twin Oaks encourages visitors but insists that visits be arranged in advance. The community publishes the following statement.

We maintain an active visitor program and we are always interested in meeting people who think they may wish to share our lifestyle. Throughout the year we offer programs of 3 weeks in length for those who have an immediate interest in joining Twin Oaks. During the summer we hold "communal living weeks." These are week long experiences on our property with 10-20 others which allow you to "test the communal water before jumping in."

On most Saturdays we hold afternoon tours which provide an opportunity to see Twin Oaks and to talk to a member in depth. All visits need to be arranged for in advance. For more detailed information about programs, write to us.

Please do not drop in. This is our home and we need to maintain control over our visiting situation so as to create a mutually beneficial and energizing atmosphere for us all.

For more information about Twin Oaks Community write:

Twin Oaks
Louisa, VA 23093
(703) 894-5126

chemotherapy would effect Seth's labor contribution was discussed, and an attempt was made to anticipate how Twin Oaks would be affected by a protracted illness and a possible death, economically as well as socially.

Twin Oaks opted for life — of which death is a significant part. Seth was a hard-working member. His activism was politically influential; his contributions to the support systems of Twin Oaks, considerable; his high energy at dances, inspirational; his love of nature, enlightening. These are the qualities his fellow communards remember about him, despite the fact that his four-year membership was interrupted by repeated chemotherapy and four bouts with surgery. During one of them a lung was removed. Twelve days after that operation Seth was jogging with one of the Twin Oaks women. He was a remarkable human being who lived a brief, remarkable life. Would those last years have been as remarkable anywhere else?

Twin Oaks provided 24-hour post-surgery care for Seth. Round-the-clock shifts

of Oakers travelled to the hospital in Richmond. The night shift slept on chairs in his room or at the foot of his bed. They went in pairs to prevent the emotional depletion a single hospital visitor might suffer, supporting each other in their Seth-care. Indeed, "Seth-Care" became a department of Twin Oaks. At one point the office was issuing mimeographed schedules on the subject. This was only a prelude to months of terminal care.

Seth died "at home," meaning in the community. A crew of innocents tackled the hard-core aspects of what it means to sustain a failing life, from oxygen tanks to the more elementary operations of feeding and hygienics for a dying person. Twin Oaks supplied support for the nursing staff: massages, counselling, comedy relief, listening. Seth died in the presence of about 30 people. Three or four were on his bed — one holding him. The ones who couldn't fit into his little room were in the adjacent living room just outside his door, and they were all singing to him. As long as he had breath left, he sang with them. His last song was a communal favorite called "Dear Friends," and his last words were from that song.

For the community this death and the rituals and ceremonies that surrounded it were a deeply meaningful and educational experience. For months after the burial the communards processed their grief, searching their own souls, communicating with their family members in new ways, writing journals. They gathered in workshops to reminisce, to discuss dreams in which Seth appeared, or their own deaths, or those of their mothers and fathers. Loving, they faced the mortality of those they loved, and their own mortality. In this way they affirmed their vitality.

The community celebrates personal growth rather than keeping up with the Joneses in the consumerist rat race. At Twin Oaks food is something one grows, prepares, and shares with others. It is not something you "get" . . . "fast." Nor is it consumed at exorbitant prices in prestigious settings designed to impress business associates. Care is something one gives and receives. It is not an insurance policy for which one does comparative shopping. To own land is to have a responsibility for the preservation of its natural purposes, rather than a "right" to "develop"

it. To "have fun" — one creates it. To have a house, one designs and builds it. To be sure, one needs a few dollars for all this. But many fewer are actually necessary than we have been told.

There are a great many lessons to be learned from the Twin Oaks Experiment. Even its failures are instructive. The communards have not only created a good life out of very little. By infusing that life with genuine values they have exposed the emotional impoverishment industrialism has created while not only expending vastly greater sums of money, but vast amounts of the world's resources as well. The real alternative is to live cooperatively with our fellows and to . . . share.

To share intelligently we need to ask the utopian question with which this article began, from "Who am I?" to "Who are you?" And chances are we need to experiment with the answers in many ways for a long time to come. It is not particularly strange that the answers are hard to come by. Thus far the problems we have set for ourselves have been relatively simple: "How can we sail to the edge of the world?" "How do we fly?" "How do we walk on the moon?" It took a whole lot of folks a very long time to work on just those three projects. Is it any wonder we have troubles with the complexities of cooperation within a framework of diversity? This is what makes the Twin Oaks Experiment so relevant. A cooperative world community holds the only viable hope for the planet's future. Monolithic world schemes, on the other hand, are historically doomed to failure.

Yesterday's "politically correct" heroes are today's Gang of Four. Isms — whether communism, socialism, capitalism — in the darkness of the nuclear age are all the same. Since we split the atom, our old linear ways of thinking are no longer adequate to the question of survival. As Buckminster Fuller said: "The world is now too dangerous for anything less than utopia." The old isms are finite, dead ends. The continuance of life is in the dance of spirit and matter, the dance of I and Thou, of utopian dreams — materialized.

Of the two options, one has been made childishly easy. We can push a button. The other is hard. We can struggle with the question.

See you in the workshop.

WORD WATCH

by David Guralnik, Editor-in-chief of Webster's New World Dictionaries

Productive Suffixes II: *-aholic*, *-collar*, *-athon*

A cosmetic long used as eye shadow in the Middle East, powder of antimony, is called in Arabic *al-kuhl*. That word entered a number of European languages in the sixteenth century, in English assuming the form *alcool*, or later, *alcohol*. Because the fine powder is prepared by sublimation, the term was extended to apply to any essence obtained by distillation, especially to that spirituous element of wine (called *alcohol of wine* in the eighteenth century) that is the cause of intoxication. An adjective, *alcoholic*, was formed in the late eighteenth century, meaning simply "having to do with or containing alcohol." About the year 1890, the adjective was transformed into a noun and applied to a person who habitually drinks too much alcoholic liquor or to one who suffers from a disorder caused by such drinking. And there the word lay, in a kind of drunken stupor, neither gaining nor losing meaning, for about eighty years.

Then in 1971, a pastoral counselor, Wayne Oates, extracted a meaningless element, *-oholic*, from the word, substituted for the first *o* an *a*, and coined *workaholic* to designate a person "addicted" to working, that is, one having an obsessive need to work. And almost immediately the barriers were down, and the neologists were out in full cry after the charismatic suffix, coining words right and left to describe persons afflicted with various kinds and degrees of compulsive behavior, ranging from *foodaholic* to *Cubaholic* (one addicted to solving Rubik's Cube). At latest count there were one or more uses of 38 separate terms in our citation file formed with *-aholic*, nine with the more puristic *-oholic*, and 14 with austere *-holic*. Here they are. I am supplying only the first element: just add *-aholic* to this first list to form the complete word: *beef*, *Big Mac*, *book*, *charge*, *choc-* (that's for "chocolate"), *clean*, *clothes*, *coach*, *Cub-* (see above), *curse*, *dance*, *dial*, *editorial*, *food*, *fudge*, *Kong* (for one addicted to King Kong movies), *love*, *lunch*, *man*, *mess*, *marijuana-*, *oil*, *play* (as the antonym to "work"), *pun*, *quilt*, *real estate*,

run, *shock*, *shoe*, *shop*, *speed*, *spend*, *sweat*, *sweet*, *tennis*, *vodka*, *wealth*, *word*, and *work*.

And with *-oholic*: *beer*, *carb-* (for "carbohydrate"), *choc-*, *food*, *gas*, *ice cream*, *nutr-* (presumably for "nutriment"), *suit*, and *TV*.

And with *-holic*: *auto*, *cable*, *coca*, *coffee*, *cola*, *credit* (also *credi-*), *Meltzer* (for a Bernard Meltzer), *petro-* (for "petroleum"), *polka*, *sugar*, *TV*, and *video*, and *vodka*.

About the only oversight in those catalogs is a term for a person addicted to word coinage. I suggest "neoloholic."

In 1921, the term *white-collar*, an Americanism, was introduced to designate that class of clerical and professional workers who are salaried and do no manual labor, and whose customary work dress then (and, as I observe it, now again) included a white shirt. About a quarter of a century later, right after WWII, it finally occurred to someone that the logical analogue to that term for a worker who earns wages, *does* engage in manual labor and, especially then, often in a blue shirt, would logically be a *blue-collar* worker. And then *-collar* became an active combining form to designate various classes of workers. First, in the mid 1960s, we got *gray-collar*, for workers in the rapidly growing service industries, in retail stores, banks, theaters, hospitals, and the like. Then, in 1977, *pink-collar* appeared (first used in the title of a book by Louise Kapp Howe), to categorize women in low-status, low-paying jobs, such as beautician, waitress, or sales clerk. And in the last two years, almost anticlimactically, we have the fallout of "Star Wars," *steel-collar* workers, the robots who, some fear, will shortly make all other-collar workers obsolete or, as the British put it, redundant.

But perhaps the most productive suffix in recent years derived from a meaningless word element comes from the name of an ancient Greek village in Attica. It was from Marathon that the legendary Greek runner sped to Athens, a distance of 26-plus miles, to announce the victory over the Persians in 490 B.C. That village gave its name to the endur-

ance races that even nonrunners must endure these days and then to any of various events that seem to go on forever. In the early 1930s, we had dance marathons (the subject of the movie *They Shoot Horses, Don't They?*). As the dancing in those endurance contests quickly degenerated into a painful shuffle, some wag in 1932 dubbed them *walkathons*, and the suffix *-(a)thon* was born, although it lay dormant for nearly two decades until television brought us the *telethon*, the endurance telecast for raising charitable funds and/or promoting public figures. *Walkathon* was reborn, this time to describe an organized hike in support of some cause, and then the dike broke in the 1960s and the coinages came flooding in. At latest count, we have in our

files 82 discrete terms formed with *-athon*, often styled *-A-Thon* or *-a-thon*. They are far too many to list here, but include, to give some idea of their variety, *Sale-A-Thon*, *talkathon*, *phonathon*, *laugh-a-thon*, *weepathon* (referring to a "bizarre revival meeting"), *kissathon*, *workathon*, *bike-a-thon*, *gloomathon*, *sexathon*, *hateathon*, *singathon*, *swimathon*, and lots more, including the latest to come to our attention (New York Times, 12/4/83), the *informatathon*, an eight-hour, two-way telecast that permitted viewers to discuss, by telephone, with doctors the latest medical technologies and credos. Extracting and cataloging the various terms formed with this suffix turned into a veritable citathon.



"Of the laborious and mercantile part of the people, the diction is in a great measure casual and mutable; many of their terms are formed for some temporary or local convenience, and though current at certain times and places are in others utterly unknown. This fugitive cant, which is always in a state of increase or decay, cannot be regarded as any part of the durable materials of a language, and therefore must be suffered to perish with other things unworthy of preservation."

Samuel Johnson, "Preface," *Dictionary of the English language* (1755)

Timothy J. Runyan

Raising the *Mary Rose*

The Story of the Recovery of Henry VIII's Flagship

On July 19, 1545, the Mary Rose, a newly-refitted warship in Henry VIII's navy, sank with all her crew of over 400, only minutes after sailing into battle against a French invasion force. The catastrophe occurred in the Solent, a five-mile-wide waterway between the Isle of Wight and the southern coast of England near Portsmouth. In October, 1982, the extensive remains of the hull and innumerable well-preserved artifacts were raised to the surface and are being restored for careful study. The recovery of the Mary Rose constitutes an archaeological chapter of unique importance to our knowledge of sixteenth-century English life and naval history.

It was a rainy September day in Portsmouth with seagulls hanging in the air, suspended almost motionless by the strong incoming breeze. In the harbor, misty with rain and fog, I could make out the dozens of Royal Navy vessels that were resident at one of Britain's largest bases. Squinting in the wind and drizzle, I searched for a buoy or marker which could identify the 400-year-old resting place of the *Mary Rose*. I could find nothing to mark the spot where in 1545 the finest ship of King Henry VIII's navy sank.

Soon I was met by the person who had invited me to Portsmouth, Dr. Margaret Rule, archaeological director of the *Mary Rose* Trust. She swept up to the station curb in a

red sportscar and drove me immediately to the *Mary Rose*, housed in a temporary building, a large shell stretched over a naval drydock. On October 11, 1982, after almost four hundred years on the ocean floor, she was dramatically raised, her beams breaking through the water before the principal patron, His Royal Highness Prince Charles, and millions of television viewers. A huge crane barge, the *Tog Mor*, gently raised the ship in a steel carriage frame especially designed for this task and carefully fitted into place during the last of over 30,000 dives on the ship. No part of the recovery process was easy. The water in the Solent is so clouded from plant life, sea organisms, and the stirring of sediment caused by the swift movement and constant traffic of ships, that visibility underwater is normally limited to a few feet. When natural light was poor, divers had to work with powerful lights to see anything at all, the areas outside the beams of light only dark, brownish mists. And now the miracle had occurred. I entered the unimpressive covering over Royal Naval dock number three, very near the place where the keel of the *Mary Rose* was laid down in 1509.

Inside, the air was moist and heavy, and there was little light. I was struck by the sound of running water and the height of the scaffolding that was before us. Somewhere below ground level in the drydock slip and beneath this cross-lacing of scaffolding lay



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The ship marks the spot where the *Mary Rose* sank.

the relatively tiny sixteenth-century vessel. After donning hard hats, we ascended the scaffolding and carefully walked the slippery planks to position ourselves above the recovered ship. Barely visible in the dim light and steamy mist was the 120-foot-long carcass of the *Mary Rose*, timbers jutting upward as she lay on her side at a 60-degree angle with decks exposed, the port sections and bow lost on the sea bottom. It was a fascinating look into the past, and yet a great shock that the coherent structure that was Henry VIII's fairest fighting ship should be reduced to jagged beam ends and stripped cross-sections of decking. But no amount of deterioration

caused by storm, anchor dragging or the dreaded ship worm (*teredo navalis*) could interfere with the recognition that this was a great archaeological specimen, unique in the world, and a historical time capsule that had yielded up more than 17,000 artifacts which will forever change our understanding of sixteenth-century life.¹

The *Mary Rose*, a warship of 600 tons, was constructed at Portsmouth in 1509 at a time when the port was bustling with naval activity. Nearby, the *Sovereign* of 800 tons was being rebuilt, and the *Peter Pomegranite* was under construction. During the next three years, another twenty-one vessels would be ordered, refitted or modified.² The town was booming and the cause was the King's enthusiasm for a royal fleet worthy to challenge the Spanish and French fleets which now commanded the Channel. The shipbuilding program was complemented by the repair and construction of coastal defense forts which ringed the kingdom and were the second line of defense behind the fleet in case of enemy invasion.³ But fortresses and ships alone could not provide the security Henry VIII sought; he also needed the latest implements of war: the best of contemporary artillery.



The only surviving contemporary illustration of the *Mary Rose*, from the Anthony Roll in the library of Magdalene College Cambridge. The identification was added later.

Henry bought 48 guns from a famous founder, Hans Poppenruyter in Malines, Belgium, in 1512.⁴ He ordered more, but also may have tempted away the Malines founder, Simon Giles, who soon began making guns in London. Humphrey Walker was the official gun founder for the King and maintained a stockpile in the Tower of London.⁵ Italians were also recruited, and cast-bronze guns were manufactured from the 1520s onward. Henry's search for talent in the field of military technology abroad proved successful: English foundries could produce the guns he needed to face his Continental adversaries. These guns were found among the many pieces of ordnance excavated from the *Mary Rose* and illustrate the innovations in military technology that occurred in the early sixteenth century. The bronze and iron guns had been sought after by previous salvagers and many were recovered, but in the work done preparatory to raising the ship a half-dozen bronze guns (five with carriages) were recovered, six large-chambered wrought-iron guns, six wrought-iron swivel guns as well as three anti-personnel hand guns which fired hailshot from a rectangular bore. The wrought-iron guns are the earliest found on wheeled carriages. At least one iron gun also illustrates an advance in foundry technology. Instead of being formed by the welding of long bars into a cylindrical shape, the barrel is made by curling a single piece of steel reinforced with heated steel rings which contract to close the seam. Also, the guns were breech, rather than muzzle-loaded. A muzzle loader required rolling back from the gunport, loading and repositioning through the gunport before it could be fired, a much more cumbersome process than breech loading.⁶

The guns are of great interest; they were most inefficient and inaccurate by modern standards, though highly successful in their day. Rather than firing well-aimed missiles at specific targets, these guns were loaded with cast-iron, lead or stone shot which exploded on impact. The metal that sprayed the decks was accompanied by huge wooden splinters sliced from decking and planking, making these weapons extremely dangerous to soldiers and seamen. Men died from wounds caused by these projectiles. They were hurried below for attention by the

ship's surgeon so as not to demoralize the survivors. When the lower deck of the *Mary Rose* was excavated, a number of skeletons were found there, which suggests that the ship may have been engaged in combat before she sank and that wounded men were taken below. The surgeon and his assistants had more to do than they could handle in most battles, which encouraged the painting of the decks dark red so that the presence of blood was less evident.

The naval surgeon was the barber-surgeon who took over medical tasks from the clergy after a twelfth-century papal decree prohibiting the clergy from participating in the letting of blood, one of the mainstays of the medical art of the period.⁷ The barber-surgeon's chest, with its instruments and unguents, has survived, a fascinating discovery. But not all of the surgeon's work involved those injured in battle. Various remedies for ulcers and assorted ailments were included in the chest in nine wooden jars — some still contained the grooves left by fingers which dug out some unguent needed for a cure. Every barber's boy, we are told by the author of *The Surgeon's Mate* (1617), was versed in the use of the small syringe for urethral injections to treat bladder stones and gonorrhoea. The *Mary Rose* chest contained both a large and a small syringe.⁸



Hailshot was fired from this hand-held anti-personnel gun braced against the gunwale.

But it is in armament that the *Mary Rose* has made its most important contribution to naval history. An item frequently overlooked in most accounts of ship armament in this period is the great number of bows and arrows used in naval combat. Skill in archery was the pride of England. In the Hundred Years War (1337-1453) against France and others, the English dominated the battlefield with their skilled use of the longbow. In 1520 at the fa-



Dr. Margaret Rule (center) and staff members inspecting a box of longbows newly recovered from the *Mary Rose*.

mous ceremonial encounter between Francis I of France and Henry VIII at the Field of the Cloth of Gold, Henry exhibited his skill as an archer, hitting the target at 240 yards! Until now no medieval English longbows and only one arrow had survived. The stores of the *Mary Rose* yielded 139 yew longbows and 2,500 arrows (of poplar), all in a remarkable state of preservation. So well preserved were they that one six-foot bow, restrung and pulled to thirty inches to test its drawing strength, did not break. At a firing rate of twelve or more arrows (each 2 1/2 feet long) per minute, the archers could rain arrows on an enemy ship's deck. Several large bows found in the collection may have been used to propel fire arrows into the sails and timbers of enemy ships. Two fireproof mittens were found in a box, both for the left hand.⁹

The practice of archery as a national activity was reaffirmed by Henry VIII in 1512 and later by an Act of Parliament in 1541. All able-bodied men under age 60 were to practice archery, while fathers were obliged to

furnish their sons aged 7 to 17 with bows and arrows. An act passed the following year required all able-bodied men 24 years of age or above to be able to shoot at a mark at least 220 yards away. (It did not say that they had to hit it!) The skeletons of two archers were found between the gun deck and weather deck. Careful examination of the skeletal remains reveals that both were in their twenties and stood 5 ft. 7 in. and 6 ft. tall, respectively. One suffered from severe pyorrhea and had a tooth missing. The forearm bone of his left arm was enlarged and flattened, doubtless as a result of constant practice with the bow. Arm braces of leather and horn were found on the ship. What is clear from the placement of archers on the main deck and gun deck, including spare arrows in handy circular leather spacers holding 24 shafts each, is that heavy artillery had not displaced the English Bowman.¹⁰

The bones of the men aboard the *Mary Rose* when she went down are now being studied and analyzed. Information about the

sailors' height, diet, and diseases will eventually emerge. Several seamen's chests were recovered and frequently held fishing lines and bobbers. Several dice were found, one domino, an embroidered leather purse, a chess board, a folding backgammon board with counters, an embossed leather cover for a book and a set of bronze scales. Although this was not a treasure ship, a few gold coins were discovered. The real treasures of the *Mary Rose* are the remarkably well preserved ordinary artifacts of sixteenth-century life: the intact wooden pepper grinder whose top still rotates, leather shoes, a hat, a carpenter's plane, carved wooden combs, leather bottles, thimbles, glass bottles with wicker coverings, wicker baskets, a silver velvet coif and musical instruments. Some of these are the finest specimens now extant. Musical instruments (three tabor pipes and a tabor drum) were found in the seamen's quarters and a wooden shawm on the main deck.

The officers aboard the *Mary Rose* may have shared a fine pewter pitcher and its contents, but doubtless spent much of their time maintaining discipline and commanding the ship. Several sundials and the earliest known magnetic compass mounted on gimbals in northern Europe emerged from the Solent's muddy bottom. Dividers and a protractor suggest that charts were used for navigation. Although the mariner's compass dates back to at least the twelfth century, the use of charts was less ancient. But, as I will explain, a lack of navigational expertise was not the cause of the undoing of the *Mary Rose*.¹¹

Life aboard a great vessel of this era was very much defined by the design of the ship and its limited space. Begun in 1509, the *Mary Rose* was apparently built in the older clinker



Andrew Elkerton examining one of 2000 arrows (length 2 ft. 6 in.) found on the ship.

style of construction in which the planks overlapped one another. This design gives a ship distinctive long horizontal lines. Clinker-built ships are strong; they are typical of northern Europe and include the great Viking longships of the ninth and tenth centuries. The overlapped planks are attached to framing timbers by the use of clinch (or clinker) bolts pounded through both planks and the framing timbers. This form of construction is labor intensive and also requires more timber than the construction of a smooth-sided or carvel-built ship in which the planks are joined edge to edge and then fastened to the framing timbers. Carvel-built ships are typically Mediterranean, but by the fifteenth century the shipbuilding traditions of north and south had merged. We know that in 1509, when the keel of the *Mary Rose* was laid down and she began to take shape as a clinker-built vessel, the HMS *Sovereign*, built in 1488, was being converted from a clinker to a carvel-style ship. Why the *Mary Rose* was built in the older fashion may appear from further research. In any event, in 1536 the *Mary Rose* was rebuilt as a 700-ton vessel, her decks modified and hull configuration changed from clinker to carvel planking. The notches left by carpenters' adzes indicate where the frames had been cut to accommodate the clinker planking. No ac-



A yew longbow being tested for drawing strength. It cracked at a pressure of 24.8 kg.



Artifacts found in the barber-surgeon's cabin: ointment jars, medicine flagons, a pewter bleeding bowl, shaving bowl, dish to hold hot charcoal, a wooden mallet, and a urethral syringe.

counts exist to document the building of the vessel or original design or the reasons for her refitting. No more information is available for the *Peter Pomegranite*, whose keel was laid alongside the *Mary Rose*.¹²

The interior of the ship was decked and sectioned in the usual fashion: above the hold (the inside of the keel and lowest part of the ship) were the orlop deck, the main deck and the weather deck; at the stern, the upper deck was surmounted by the castle deck. The main, upper and castle deck carried cannon. Although fitted out differently in 1536 than indicated in an early inventory of 1514, the *Mary Rose* carried 91 muzzle-loading and breech-loading guns, made of both bronze and iron.¹³ In the 1536 refitting, as the ship was upgraded from 600 to 700 tons, the crew size increased. In 1513 she sailed against the French with a crew of 120 mariners, 251 soldiers, 20 gunners, 2 pilots, 5 trumpeters and 36 servants, a total of 434 men. Sir Edward Howard was delighted with his flagship's performance and wrote to Henry VIII, "She is the noblest ship of sail and as great ship at this hour that I trow be in Christendom. A ship of 100 tons will not be sooner about then she."¹⁴ She stood high in the water with the new squared transom with two gun ports for firing at the dreaded small oared galleys which could silently approach and fire with a long-range culverin at larger round ships which lacked armament in the stern. This ship was purposely built to fight and bristled with guns. When refitted and ready for battle in her last and fatal action, all her ordnance was in place, augmented by the archers needed to man the 139 longbows and 2,500 arrows found aboard, and the handguns sometimes inserted through gun shields. Six of the shields were found on the *Mary Rose*, made of

panels of laminated wood and leather with a hole in the center for the gun and another hole for use as a sight. A candle stand was atop some shields (for midnight sniping?). In all, over 400 men were aboard the *Mary Rose*, many of them soldiers ready to board and fight once the ship grappled a French vessel and the fighting turned to the accustomed land battle at sea aboard ships, which then became nothing more than fighting platforms. The losers died by enemy hands or drowned. In happier days, when the English were victors at sea under Edward III, a chronicler claimed after a battle that, if the fish could have talked, they would have spoken excellent French, since so many Frenchmen had gone into the deep.¹⁵

The huge oak beams used to form the framing timbers, braces and knees for the ship came from neighboring forests and were several hundred years old when cut, meaning that some of the timbers date from the twelfth or thirteenth centuries. The oak planking was attached to the frames by wooden treenails. Iron bolts were used where the planks butted together. Most iron hardware has disappeared, leaving only tracings. The ship retained its form when raised because of these treenails, which being made of wood did not suffer the rust of the iron fasteners.

The hold contained not only rounded black flints for ballast, but barrels of wood tar, rope and logs. The brick galley was also based in the hold and extended up through the orlop deck. The great galley was composed of 2,000 bricks, which now await industrious archaeologists who will try to put it back together. Ventilation for smoke and heat was probably through a wooden chimney with lead lining which extended to the main or

weather deck. Large copper cauldrons were used to prepare the food.

A disappointment to those interested in the rigging and running of the ship is the loss of the mainmast, one of four masts on the *Mary Rose*. No trace of the mast exists: it was probably removed during an early salvage effort soon after she sank. Two hulks named *Jesus* and *Samson* (certainly names appropriate to the task!) were placed on each side of the *Mary Rose* and cables attached to lift her and ride her to shore. The effort failed, but the mast may have torn free in the process. The maststep, however, remains.¹⁶

The image of the *Mary Rose* in all her splendor, with masts in place, sails furled and running gear with blocks, tackle and ratlines in position, is always that provided by the Anthony Roll of 1546. Prepared by Anthony Anthony, an officer in the Board of Ordnance at the Tower of London, this finely illustrated roll lists and pictures the King's ships. Also noted on the roll are inventories of ordnance, munitions and equipment for war. The ship he describes is the rebuilt vessel of 1536, ready for war with guns in the

forecastle and aftercastle, and in the stern and waist. Fighting tops (for archers) are shown on each of the four masts. At least twenty-two flags and five long streamers wave in the breeze past the furled sails. Across the weather deck, colorful blinds or shields of wood are placed for show and also to shield archers or gunners. Anthony lists 91 guns of brass and iron for the ship, plus stone, lead and iron shot, 250 bows and assorted equipment for war. Two hundred mariners manned the ship while 185 soldiers and thirty gunners brought the fighting force to a total of 415, presumably her optimum fighting strength.

This portrait of the *Mary Rose* perhaps explains her surprising and tragic disappearance beneath the waters of the Solent in 1545. Accounts given by those present at the sinking are noticeably lacking in explanations. What seems clear is that she was not mortally damaged by the French bombardment. The French Admiral Claude d'Annebault, Baron de Retz, Marshal of France and Governor of Normandy, claimed that his cannon sank the *Mary Rose*. Sir Peter Carew, whose brother,



A view of the Swedish warship *Vasa*, now in its own museum in Stockholm. The gunports and lids are similar to those on the *Mary Rose*.

the Lord Admiral, Sir George Carew, went down with the ship, left an account in his memoirs. He noted Henry VIII's concern for the size of the French force.

It was the King's pleasure to appoint Sir George Carew to be Vice Admiral of that journey and had appointed him to a ship named the *Mary Rose* which was as fine a ship as strong and as well appointed as none better in the realm . . . Carew entered into his ship command every man to take his place and the sails to be hoist but as the same no sooner done than the *Mary Rose* began to heel, that is to lean over to one side. Sir George Carew being in his own ship on seeing the same called for the master of his and told him thereof and asked him what it meant who answered that if she does heel she is like to be cast-away. Then the said Sir Gawain (his uncle) passing by the *Mary Rose* called out to Sir George Carew asking him how he did, who answered he had the sort of knaves whom he could not rule and it was not long after that the said *Mary Rose* thus heeling more and more was drowned with 700 men which were in her with very few escaped. He had in the ship a 100 mariners, the worst of them being able to be master in the best ship within the realm, and those so maligne and distained one another than refusing to do that which they should do were careless to do that which they ought to do and so contending in envy perished in forwardness.¹⁷

After the sinking, an inquiry was conducted by Viscount Lisle, the Lord Admiral, and Charles Brandon, the Duke of Suffolk. There were few men to interview; Captain Roger Grenville went down with the ship. Using Carew's eyewitness account and other information, they reached the quick verdict that the ship was lost because of mishandling and lack of discipline.

Later speculations were of another cast. Sir Walter Raleigh insisted that she was lost because of a design fault and the short distance between the gunports and waterline.¹⁸ We now know that the gunports were open when the *Mary Rose* went down and that they would have been difficult if not impossible to close once the ship heeled over. The gunports were large and the lids heavy. They were hinged at the top and swung outwards, the raised lower edge then fastened to the hull planking. The lids could not be closed without first running in the cannon to clear the port, releasing the catch holding the lid to the hull and then pulling the lid securely into the port. If the ship was heeled over, the force of gravity would push the cannon further out through the gunport and the

lid catch release would be impossible to reach, so the men could not have closed the gunports. In addition, the bombardment the ship was getting from French guns doubtless contributed further to the panic felt by the gunners below, who would soon bolt for the upper decks only to be enmeshed in their own antiboarding netting, eventually going to the bottom with the admiral and the captain, as the great warship continued to heel over. There is no record or indication that she had yet fired a shot. Perhaps thirty or forty men bobbed to the surface, the flotsam remaining from the wake of the *Mary Rose* as she settled on the shallow bottom, only her mast tops showing above the water.

This explanation of the sinking seems the most likely of those proposed thus far and is supported by a significant body of information. The horror of this tragedy taking place before Henry VIII, who was watching from the shore, must have been overwhelming. The great loss of life was certain because of the anti-boarding netting which imprisoned the men on the main deck, and the speed with which she sank, apparently in a matter of minutes. I inspected the gunport lids while in Portsmouth. They are large and heavy, made of oak, and weigh nearly a hundred pounds. To have closed the ports when the heeling first began might have provided time for the ship to right herself or to be righted, by moving men, sails or material around as needed. But it would also have reduced her fire power in the thick of battle. No explanation has been offered for her sudden heeling. It could have been caused by uneven distribution of guns and men, overloading of the ship, or a sudden burst of wind which caught her sails. The great Swedish warship *Vasa* sank in Stockholm harbor on August 10, 1628, on her maiden voyage in calm waters with a crew of fifty-five. She was the special project of the Swedish king and designed by Dutch shipwrights. The cause of her demise was insufficient ballast. A stiff breeze hit her sails and over she went. She sank in about 100 feet of very cold water, free of damaging microorganisms, and was brought to the surface in 1959.¹⁹

The *Mary Rose* was not the only vessel that found herself in trouble in July, 1545. A contemporary wall painting at Cowdray House in nearby Midhurst, Sussex, has been lost, but an engraving taken from it in the

eighteenth century shows the situation at the battle. A mass of French vessels representing the 235-vessel fleet is shown entering Portsmouth Harbor around the northeast corner of the Isle of Wight where they had landed troops. The Lord High Admiral, Viscount Lisle, moves forward in his flagship, the *Henry Grace à Dieu* (or *Great Harry*) of 1000 tons. The winds are light and the large English carracks move slowly, easy prey to the oared French galleys which attack the leading ships. On horseback facing the viewer, before newly constructed Southsea Castle, Henry VIII is shown in fine dress with the Duke of Suffolk, commander of the army. Guns line the shore but none are being fired at this moment either because of the great distance of the French ships or the attention which was directed to the center of the picture. Just beyond the castle in the neutral space between fighting ships can be seen the two topmasts of the *Mary Rose* with a lone mariner standing on one and waving for help. A few bodies are shown floating in the water and three or four dinghies have come to collect the survivors, but there are only a few persons shown in each boat. Although the King has his back to the watery tragedy, according to contemporary accounts he was much affected by it, especially the screams of the drowning men.

If mismanagement of the ship was a principal factor in its loss, the rigging, sail plan, and tackle could help shed more light on this question. To have in hand the ropes and tackle of a four-and-a-half century-old ship is near miraculous. The only contemporary illustration from the Anthony roll is not very helpful about the exact disposition of the rigging. The drawing is blurred and unclear. The four masts are clearly shown and all but the foremast appear raked to stern. The masts are gone today, but the large amount of rigging which remains presents another problem to those who wish to know how the ship was rigged. Piles of hardened rope, much of it tarred, and plastic bags full of rigging pieces line the storage shelves of the *Mary Rose* Trust storehouse. I explained to the conservation staff that the rope was a particular interest of mine, since I had edited some fourteenth-century cordage accounts. We examined the many bits and coils of rope of various sizes. I was unsure of the changes in production since those of the 1300's in Bridport, Dorset,

but was familiar with three distinct types of cordage—white, black and bastard. White is the best, a mixture of white and black (bastard) is next best, and black is the cheapest. Much of the cordage is in fact black, but this may be the result of its being tarred. It is possible that distinctive types of cordage and their places of origin will be identified.²⁰

The most impressive rigging pieces are the blocks. These range in size from six inches to 2 1/2 feet in length and include single, double, and sister blocks. The sheave wheels inside the blocks were made of ash, elm, or bronze. Some of these are in such remarkable condition that I was able to spin the sheave freely inside its block on the unencrusted wooden pin. Parrels composed of drilled wooden balls or trucks spaced by ribs and strung with one-inch diameter rope were used to hoist the yards. Spare parrel ribs and trucks were found in a rigging locker on the orlop deck. The fighting tops disappeared with the masts, which has added to the difficulty of reconstructing the rigging.²¹

Complete reconstruction of the ship or the construction of a replica can only occur after extensive analysis of the thousands of artifacts recovered. Many additional bits of information must come from other sources: the recovery and identification of guns and other materials taken from earlier salvage efforts and the excavation of similar vessels.

Salvage efforts began almost immediately after the disaster of 1545. The *Mary Rose* lay on her starboard side dug into the muddy bottom of the Solent. Her masts probably broke the water at low tide, as she was in only six fathoms of water then. The Duke of Suffolk made a proposal to raise the ship two weeks after the sinking:



The recovery vessel *Sleipner* (left) was used by divers to excavate the *Mary Rose*.

First, two of the greatest hulkes that may be gotten, more the hulkes that ridith in the haven. Item, four of the greatest hoys within the haven. Item, five of the greatest cables that may be had. Item, ten great hawsers. Item, new capstans with twenty pulleys. Item, fifty pulleys bound with iron. Item, five dozen ballast baskets. Item, forty pounds of tallow. Item, thirty Venetian maryners and one Venetian carpenter. Item, sixty English maryners to attend upon them. Item, a great quantity of cordage of all sorts.²²

The Venetians (Petre de Andreas and Symone de Maryne) were duly hired but their efforts failed. They attached lines from two 700-ton ships positioned on each side of the *Mary Rose* and winched them tight at low tide. They awaited the incoming tide (fourteen feet in spring) to lift her. The scheme failed. Instead, guns and other equipment were removed from the ship.

In 1836, a serious effort at salvage was made by John and Charles Deane.²³ Starting with a medieval knight's helmet to which a pump was attached for use by firemen, they devised an underwater breathing helmet, and used it to work on the hull of the *Royal George* which sank at Spithead in 1782. The Deanes were lured by complaining fishermen to a site where their lines often caught. There they found the *Mary Rose*. Four cannon were recovered to assist in the identification. Guns and other materials were removed over the next four years, during which time explosives may have been used to expose the wreck, much of it now buried under a hard clay crust. The upper port side of the ship was now worn away; only the starboard side remained unbroken.

An interval of over a century passed before the *Mary Rose* was again the object of a search. In 1965 Alexander McKee, author of works on naval and military history, initiated a search for lost ships in the Solent.²⁴ Archaeologists and other scientists were recruited to survey the waters to find the *Mary Rose* as well as other vessels. Underwater visual observations proved inconclusive. Both side-scan sonar and sub-mud sonar were ultimately employed to examine the seabed off Southsea Castle. Chance intervened when a company happened to be testing sonar equipment in the area and was persuaded to use it on the site. A positive reading resulted. The *Mary Rose* Committee was formed in 1967 to find and recover what could be had from the ship. The work progressed slowly

with the use of volunteer divers and almost no funding. To avoid piracy of the site and to claim rights to it, a lease had to be obtained from the Crown Estate Commissioners. No historic wreck act existed in Britain until urged by the Committee and others and approved by Parliament in July, 1973. (The United States has no equivalent law at this time, although a movement to establish one is under way.)

The excavation work from 1971 to 1976 was seasonal and very limited, given the restrictions of equipment, money, and divers. At first, only a seven-foot cannon was found, under a foot of hard clay that covered the site, but few other Tudor artifacts. Over the years the diving platform was lost in a gale, and during some summers there were few suitable diving days because of wind and storms. But by 1975 conditions and discoveries had improved sufficiently to interest Prince Charles, who dived on the wreck and agreed to become president of the *Mary Rose* Trust. Work continued, and in 1978 an exploratory trench was cut in the mud covering the ship to a depth of several feet. A conference of experts from all related fields assembled to contemplate the future course of action. Full excavation and removal of artifacts was the choice of the assembly, with a decision about raising the hull to be made once this was accomplished.

No work of this nature could be done quickly without the use of a larger surface support vessel. In 1979, the *Sleipner*, a salvage ship used in the raising of the *Vasa*, was purchased from Sweden for the project. Airlifts were used to carry away debris and sediment, as the ship was gradually cleared of the crust which formed her protective shell and had been primarily responsible for her preservation. Hundreds of volunteers were trained as divers and archaeological field workers. But as artifacts surfaced with greater frequency, a conservation team and resources to conserve the materials, mainly of wood, bronze, iron or leather, had to be provided. Smaller objects were freeze-dried after soaking in polyethylene glycol (PEG), which strengthens the wood cells and displaces water. Marine salts and iron tracings in the wood must be removed before drying can take place. Soaking in PEG is a standard conservation treatment for wood after freshwater washing. The hull of the *Mary Rose* will

probably undergo such treatment. Since being raised out of the water in 1982, she has been sprayed with chilled fresh water to clean her of dirt and sediment and to kill marine organisms. This will continue for two years. My visit to the *Mary Rose* came after she had experienced a brief bout of bacterial growth, which was combated with antifungal treatments. The chemistry of the timber must be carefully monitored to avoid infestation which might permanently damage the oak members of the vessel. For the uninitiated, a first encounter with a PEG-treated piece of timber can be disappointing. It gives the wood a blackened, gooey look.²⁵ Visitors to the *Mary Rose* during the next several years can expect to see the ship treated in this fashion.

Details of the raising of the *Mary Rose* on October 11, 1982, deserve special mention because of the extraordinary effort that was made to assure success. Sophisticated electronic equipment, including underwater video cameras, was used to measure every step of the process. A steel lifting frame 117 by 49 feet with four 32-foot adjustable legs was placed over the hull. The hollow tubular frame was flooded and it sank over the hull, its legs implanted in the seabed around it. Wire cables were then attached to the hull and connected with straps stretched underneath her and to other bolts specially placed. The wires were attached to the lifting frame which was gradually raised, breaking the suction holding the ship to the sea bed. Once off the sea floor, the lifting frame was raised by the huge sea crane, the *Tog Mor*. She was carefully positioned over a steel cradle specially built with padded arms at the angle at which she lay before being lifted. The *Tog Mor* then lifted the frame, cradle and ship as one and placed them on a transport barge which was moved to Portsmouth dockyard, where the cradle and ship were transferred to a restoration barge and winched into the specially

prepared drydock. Months of planning went into this complex operation, which was completed in less than a day, and dozens of commercial firms donated time and equipment to make it possible.

My journey to see the *Mary Rose* ended in a climb over wet and slippery scaffolding in September, 1983, only eleven months after her emergence from the murky waters of the Solent. Visitors after May, 1984, will get a better look. The ship has been cleaned, the scaffolding removed, and a high gangway built for viewing. The exhibition will display for the first time many of the remarkable objects I was able to study and handle thanks to the kindness of Dr. Rule and her staff. What the public won't get is the great pub lunch I shared with the divers and research staff and a last prized moment. Locked in a safe in the conservation department and brought out for me to see was the final treasure of the *Mary Rose* — her ship's bell, of beautifully polished brass, clearly dated and now held by this vagabond American 439 years after it was last rung by the boatswain.²⁶ I couldn't help sounding one more ring for the lost men of the *Mary Rose*.



NOTES

¹ The complete archaeological reports will be years in production. For the current state of finds, see Margaret Rule, *The Mary Rose: The Excavation and Raising of Henry VIII's Flagship* (London: Conway Maritime Press, 1982).

² See Michael Oppenheim, *A History of the Administration of the Royal Navy and of Merchant Shipping in Relation to the Navy from 1509 to 1660* (London 1896) for this period. For ship construction, M. Oppenheim, ed., *Naval Accounts and Inventories of the Reign of Henry VII, 1485-8 and 1495-7* (Navy Records Society, 1896), pp. 161-218 for the *Sovereign*. This account includes all payments for wages, food and materials made by Robert Brygandyne, Clerk of the King's Ships.

³Henry VIII was very active in developing coastal defenses, including construction at Dover Castle and Southsea Castle. The Romans and Saxons also developed defense schemes. See B.I. Morley, *Henry VIII and the Development of the Coastal Defence* (London, 1976).

⁴*Letters and Papers Foreign and Domestic of the Reign of Henry VIII*, J.S. Brewer, R.H. Brodie, and J. Gardiner, eds., 21 vols. (London, 1862-1910), I, 145-6, 709.

⁵M. Rule, *The Mary Rose*, p. 15. For the further use of guns in this era see J.F. Guilmartin, Jr., *Gunpowder and Galleys* (Cambridge, 1979).

⁶For illustrations see Alexander McKee, *King Henry VIII's Mary Rose* (New York, 1974), Figure 33.

⁷Pope Alexander III imposed this restriction in 1163. For more on the subject see J.J. Keevil, *Medicine and the Navy, 1200-1900*, 4 vols. (Edinburgh, 1957-63), Vol. 1.

⁸J. Woodall, *The Surgeon's Mate* (London, 1617, reprinted 1978).

⁹M. Rule, *Mary Rose*, pp. 181ff.; Robert Hardy, *Longbow* (London, 1976). See also F.C. Lane, "The Crossbow in the Nautical Revolution of the Middle Ages," in D. Herlihy, et al. (eds.), *Economy, Society and Government in Medieval Italy, Essays in Memory of Robert L. Reynolds* (Kent, Ohio, 1969), pp. 161-72.

¹⁰M. Rule, *Mary Rose*, pp. 184-86.

¹¹For more on this subject see D.W. Waters, *The Art of Navigation in England in Elizabethan and Early Stuart Times* (London, 1958), and his *The Rutters of the Sea: The Sailing Directions of Pierre Garcie* (New Haven, 1967). A standard work is Eva G.R. Taylor, *The Haven Finding Art: A History of Navigation from Odysseus to Captain Cook* (New York, 1957).

¹²On the evolution of the ship and its form see Richard Unger, *The Ship in the Medieval Economy, 600-1600* (London, 1980), Ch. 5; Romola and R.C. Anderson, *The Sailing Ship* (London, 1961). For a recent published account of English ship repair and refitting, see Susan Rose, ed., *The Navy of the Lancastrian Kings: Accounts and Inventories of William Soper, Keeper of the King's Ships, 1422-27* (London: Navy Records Society, 1982).

¹³The gun lists are printed in McKee, *King Henry VIII's Mary Rose*, Appendix, Tables 2, 3.

¹⁴Cited in M. Rule, *Mary Rose*, p. 25.

¹⁵Timothy J. Runyan, "Ships and Mariners in Later Medieval England," *Journal of British Studies*, XVI (Spring, 1977), 16. This reference is from the *Chronicon de Monasterii de Melsa*, ed. E.A. Bond, Rolls Series, 3 vols. (London, 1866-68), III, 45.

¹⁶M. Rule, *Mary Rose*, pp. 39-41.

¹⁷The text is in S. Horsey, *The Loss of the Mary Rose* (Brightstone, I. of Wight, 1979), cited in M. Rule, *Mary Rose*, pp. 37-8.

¹⁸In his work, *A Discourse on the Invention of Ships*, published posthumously in 1650, Raleigh claimed her gunports were within sixteen inches of the water. For a different view, see Michael Oppenheim, *Administration of Royal Navy*, p. 66.

¹⁹Anders Franzén, *The Warship Vasa* (Norstedts, 1966). Franzén searched three years for the ship and helped in her recovery.

²⁰Timothy J. Runyan, "A Fourteenth Century Cordage Account for the King's Ships," *Mariners Mirror*, 60, no. 3 (August, 1974), 311-28 and K.O.B. Sandahl's comment, *ibid.*, 61, no. 2 (May, 1975), 191-2.

²¹For later rigging, good information exists, as in R.C. Anderson, *Seventeenth Century Rigging* (London, 1955), a revised version of his *The Rigging of Ships in the Days of the Spritsail Topmast, 1600-1720* (Salem, 1927). For modellers, R.K. Battson, *Modelling Tudor Ships*, rev. ed. (Watford, 1979), provides a nicely illustrated handbook.

²²M. Rule, *Mary Rose*, p. 40. Correspondence on this subject is found in the Public Record Office (London), State Papers addressed to Sir William Paget, Secretary of State, 1 August 1545.

²³M. Rule, *Mary Rose*, pp. 42-46; McKee, *King Henry VIII's Mary Rose*, 92-108.

²⁴For his own story, A. McKee, *King Henry VIII's Mary Rose and History Under the Sea* (London, 1968). Useful references are also in his chapter, "The Influence of British Naval Strategy on Ship Design: 1400-1850," in G. Bass, ed., *A History of Seafaring Based on Underwater Archaeology* (London, 1972), pp. 225-52.

²⁵M. Rule, *Mary Rose*, pp. 89ff.

²⁶This watch bell was found in June, 1982, and is inscribed in German, "IC BEN GHEGOTEN INT YAER MCCCCCX."

Grateful acknowledgment is made to Dr. Margaret Rule, archaeological director of the Mary Rose Trust and to Conway Maritime Press (London) for permission to use illustrations.

Rita V. Beatie

Eleanor Steber at Seventy

A look back at the great soprano's career reveals a history of injustice by music critics and Rudolf Bing, manager of the Metropolitan Opera

When I was a child growing up in a small town in southeastern Colorado, staying up on Monday evenings to listen to the Voice of Firestone radio broadcasts was a special treat. At that time, in the forties, I knew nothing about opera, but a voice that I frequently heard on that program, and remember liking, was Eleanor Steber's. A decade later, as a voice student at the University of Colorado, I learned who Eleanor Steber was. I listened to her many Metropolitan Opera broadcasts and realized that she was a singer who offered her audiences something quite unique. And then, in the early 1960s, when my husband and I were living in the Boston area, I studied voice with a teacher who himself had studied with Steber's teacher, and I learned what it was that *made* her unique. I began to listen to her recordings with an educated ear and to understand what she was doing; she became an ideal standard against which I judged both myself and all other singers.

In 1970, when we moved to Cleveland, I discovered that Steber was head of the voice department at the Cleveland Institute of Music.¹ Though it took me over a year to build up the courage to approach her, she accepted me as a student. My life has never been the same since I stepped into her studio. She has had a direct and profound influence upon my singing, my musicianship, and my teaching.

In April of 1982, Steber gave a Master Class for my Boston students. Her voice, her approach, and her presence had a tremendous impact upon them, and their reactions and comments set me to thinking. I had come to know her as a teacher and as a private person. But what about the Steber I didn't really know: the public Steber, the Prima Donna? When I began to study what was available in print about Steber's active career at the Metropolitan Opera, I was surprised, even shocked. I knew that she had been a popular singer with a large, appreciative, and enthusiastic audience. She had been a respected artist who worked with some of the greatest conductors of her time, a singer whose recorded legacy attests to her artistry, and a singer who is today admired and respected by a new young audience. Yet the printed page also showed a singer who, for some reason, had not received the recognition she deserved, who did not seem to be able to please the New York critics of her day. That paradox is the focus of this essay, written in honor of her approaching seventieth birthday.

*

Eleanor Steber's career nearly began in Cleveland. She was born and raised in Wheeling, West Virginia, where her mother taught piano and sang, and Miss Steber grew up "performing."² When it was time for her to

Rita Beatie is a soprano and a voice teacher. Born in Colorado, she received a bachelor's degree in music education from the University of Colorado, and in 1980 a Master of Music from the New England Conservatory in Boston — "at 48 probably one of the oldest students ever to receive a performance degree." She became a student of Eleanor Steber's during that soprano's period as a member of the faculty of the Cleveland Institute of Music, and over a span of eight years her friend as well. They often talked about Steber's abruptly interrupted career at the Metropolitan Opera: "In view of her present reputation, I found it hard to understand what had really happened to her. The present article grew out of a desire to honor her on her 70th birthday . . . , an attempt to look at what she has accomplished and assess the influence she is having on future singers." Beatie says her voice began to develop under Steber's tutelage and she gave successful recitals in New York but turned to teaching because of her family. She is married to a member of the Cleveland State University faculty and is the mother of two sons, the younger of whom is eleven. During the half of her life spent in Boston, she teaches a flock of young professional singers.



advance her musical training, her mother brought her to Cleveland to consider enrolling at the Cleveland Institute of Music. She then decided, however, that the New England Conservatory in Boston had more to offer to her daughter at that time, and Miss Steber spent six years at the Conservatory, studying voice with William L. Whitney, a respected teacher in Boston whose vocal approach went back in a direct line to the Italian *bel canto* singers of the nineteenth century.³

Then, as it seems all serious singers must do, she moved to New York City. In 1940 Steber entered the Metropolitan Opera Auditions of the Air (then sponsored by the Cleveland-based Sherwin-Williams Paint Company) and, in a field of over 800 contestants, she won; she made her Met debut as Sophie in *Der Rosenkavalier* on December 7, 1940. She spent her first two seasons, in addition to eleven performances as Sophie, singing small roles such as the Forest Bird (*Siegfried*), Woglinde (*Götterdämmerung*), Micaela (*Carmen*), and the First Lady in Mozart's *Die Zauberflöte*. Bruno Walter, who conducted the last of these, was so impressed that he asked her to take the role of the Countess in Mozart's *Le Nozze di Figaro*⁴ and she made her debut in that role in December 1942.



Eleanor Steber as winner of the Metropolitan Auditions of the Air in 1940

Steber was now on her way to a career at the Metropolitan that would find her completing over 500 performances in 35 starring roles in New York and over 100 performances on tour (including 14 times in Cleveland). By the late 1950s she had become, as *Variety* noted, "a one-woman entertainment industry at the Metropolitan."⁵

World War II had made it difficult for American opera managements to obtain European singers, and Steber was one of a group of young Americans who came to form the backbone of the company in the forties and fifties. But it was not easy being an American in a profession so long dominated by Europeans. As Steber once said, "The tragedy of the American singer is that he grows up under the noses of the American public and critics. We triumph in Europe but 'back home' are sidestepped in favor of the artistic import, the foreign label, which is accepted without reservation, and in all too many cases regardless of merit."⁶

In spite of her lack of European training or experience, Steber accumulated quite a list of accomplishments. She created the first performances at the Metropolitan Opera of the roles of Constanza (in Mozart's *The Abduction from the Seraglio*), Arabella (in Richard Strauss's *Arabella*), Vanessa (in Barber's *Vanessa*), and Marie (in Berg's *Wozzeck*). She starred in new productions of four Mozart operas (*Le Nozze di Figaro*, *Così fan tutte*, *The Magic Flute*, and *Don Giovanni*), of Verdi's *Otello*, and of Wagner's *Lohengrin*. She was the first American-trained singer to undertake the role of the Marschallin in Richard Strauss's *Der Rosenkavalier* when she opened the 1949 season in that opera. In that production she was the first American singer to "open" a Met season in a starring role, as she was later the first American singer to "open" a Bayreuth season.⁷

By the early 1960s, however, Rudolf Bing (who had taken over as general manager of the Metropolitan Opera from Edward Johnson in 1949) was intensifying his efforts to bring in European singers.⁸ In order to make room for them, Steber was given fewer and fewer assignments. Although she was on the Met's formal roster through 1966, her last regular appearance at the Met was as Donna Anna in *Don Giovanni* in December, 1962.

It is no secret that Steber was stunned

by this abrupt end to her singing career at the Met, which had been her artistic home for over twenty years.⁹ But instead of giving up and disappearing into obscurity, she turned to teaching, and from 1963 through 1972 served as head of the voice department at the Cleveland Institute of Music. Here, in addition to her teaching and administrative duties, Steber presented an annual recital which, as Robert Finn commented, became "an annual Great Occasion in Cleveland's musical life."¹⁰

During this time, Steber continued to sing in concert and recital, and the 1970s saw a renaissance of her career as a singer that she attributes directly to her teaching.¹¹ In 1973 she gave a series of recitals in New York's Alice Tully Hall to considerable critical acclaim; many of her earlier recordings were re-released; she did a number of programs all over this country as well as in Europe; and a new generation, a new audience, learned to appreciate what the "Yankee Doodle Diva" had accomplished.¹²

By the mid-1970s, Steber had been widely recognized as a paragon of Mozartean style. She was "always . . . famous for her singing of Mozart," wrote Raymond Ericson in *The New York Times*,¹³ and Max de Schauensee called her "one of the great Mozart styl-ists."¹⁴ Klaus Laskowski, reviewing a 1977 Mozart recital in New York, spoke of her "perfect skill in pure Mozart singing. Eleanor Steber proved that she could still show, with an unprecedented discipline, how one must perform Mozart."¹⁵ And for Richard Dyer, the next year in Boston, she was "the greatest Mozart singer America has produced."¹⁶

For the German critic Peter Lang, to whom her Mozart interpretations had "a significance which has not yet been matched," Steber's American background raised a question that reflects the other side of the prejudices perceived, as mentioned earlier, by Miss Steber herself: "How did an American singer, who had never studied in Europe, come to all these remarkable capabilities, especially at a time when people in the New World had a totally different conception of Mozart than we did?"¹⁷

There is a more fundamental question, however, one less tied to transatlantic prejudices. Why was a singer now recognized as the model of Mozart interpretation so seldom recognized as such during her performing ca-



Steber as the Countess in *Le Nozze di Figaro*

reer? "It is hard to talk sensibly about singers and singing," wrote Richard Dyer in *The New York Times* in 1974, "and not many people even try. No two persons can agree to admire more than a handful of singers, and even then appreciation usually rests on different bases."¹⁸ Dyer's reflection is certainly borne out by the disparity of various critical comments about the singing of Eleanor Steber. Even a brief look at one aspect of the critical record — the reviews of Steber's Mozart performances during her Metropolitan Opera career — gives one reason to question the workings of music critics' minds and pens.

**

Steber's first starring Mozart role was that of the Countess in *Le Nozze di Figaro*, which she first sang on December 12, 1942. She had an immediate and lasting success in this role; and she herself commented that it was "one of the easiest [roles] for me . . . it lies beautifully in the middle part of the voice."¹⁹ Bruno Walter stated that he "had never had a better cast anywhere"²⁰ and the critics certainly agreed. Howard Taubman wrote that Steber was "a handsome Countess . . . her handling of 'Dove sono' was the work of a young artist who is distinctly up to an exacting part."²¹ Irving Kolodin commented that "the poise and refinement that made Steber's Countess a notable element of

many later performances . . . was remarkably evident in her first effort . . .,"²² and it became one of her great roles; in 1944 Bernard Haggin noted that "Steber's previous achievements had left me unprepared" for Steber's Countess.²³ Steber sang the role 34 times at the Met, the last time on March 1, 1956. It is a pity that there is no generally-available complete recording of Steber's Countess, although "Dove sono" is on the recording with Bruno Walter and "Porgi amor" is available on her privately released *Strictly Mozart*.²⁴

Her next Mozart role was Donna Elvira in a 1944 production of *Don Giovanni*, a role of which she was not overly fond. "Donna Elvira's music," she said, "often taxes the vocal chords because it constantly jumps all over the scale. One is hard pressed to create an even vocal line . . ." ²⁵ Noel Strauss thought her Elvira "inadequate," requiring "something more than small sounds constantly pushed and coloratura without brilliance"; he felt that only Pinza, Baccaloni and Connor exhibited vocalism worthy of Mozart.²⁶ Yet, in her 1953 recording with Bruno Walter²⁷, her rendition of "Mi tradi" (Elvira's grand aria) shows no evidence of the faults Strauss criticizes, and in fact his observations seem to indicate that he did not really understand Mozart "style."²⁸ Steber sang this role 20 times, until March of 1954.

In 1946 the Met mounted its first production of Mozart's *Abduction from the Seraglio*, which was performed in English, with Steber creating the role of Constanza. This is one of the most difficult of Mozart's soprano roles because of the extremes in registers coupled with an unusually high and sustained vocal line. Steber pointed out that it " . . . presents the same problems as Fiordiligi. In the major aria ['Martern aller Arten'] the music goes from a low B to a high D, with constantly extended-octave jumps, and occasional jumps that embrace over two octaves within one or two bars."²⁹ Olin Downes, then the regular music critic for *The New York Times*, liked neither the opera nor Steber's Constanza: "Miss Steber had neither the technic [*sic*] nor tone to make the arias . . . effective. She was at her best in lyrical passages . . .," but "in bravura passages . . . unsure, and skated over the surface of places which should have had impact . . . sometimes unsteady and untrue to pitch."³⁰ Again,

her recordings of Constanza's arias³¹ do not support this judgement, and Irving Kolodin wrote that "Steber's Constanza provided present pleasure and promise of future distinction . . .," while the others in the cast were not "of Steber's quality."³² Steber sang this role only four times before the opera was dropped from the Met repertoire.

In December of 1947, Steber first sang the role of Pamina in *The Magic Flute*. It was a role that suited her well, and the recording of the November 25, 1950, broadcast³³ reveals her beautiful and effortless singing; Kolodin remarked that Steber showed "lovely sound and musical excellence . . ." ³⁴ She sang this role only seven times, her last performance being on February 21, 1951.

One of Steber's great roles, Fiordiligi in *Così fan Tutte*, she "really did not want to accept originally," but it became "so much a part of my repertoire that I have been asked to sing it in almost every major opera house in the world Fiordiligi's two arias lie so strangely that they could almost be sung by a high mezzo-soprano And, as in all of Mozart's music, the singer is not allowed to employ different registers . . ." ³⁵ In 1951 the Met mounted a new production of *Così* in English, with an American cast and with Alfred Lunt as stage director, and Steber took on the taxing role. The early critical reception was not overwhelmingly favorable: Kolodin wrote that Steber was troubled by the extremes of register and that she did not have "the brilliancy and bravura at command that the virtuoso aria of the first act ['Come scoglio'] . . . demands"³⁶; Downes reported that although she "interpreted with much feeling" the second act aria, "Per pietà," it "lies too low for Miss Steber's best vocal command . . ." ³⁷ With time, however, Steber's Fiordiligi became the standard by which other singers were judged, and Kolodin later thought that Leontyne Price, in the 1965 Met production, did not match "the prior standards of Eleanor Steber"; he spoke of "the fervor and dramatic purpose which Steber . . . managed to preserve."³⁸ Her recordings, both of the complete opera and of the arias³⁹ bear out this later opinion; a review of the reissued recording of *Così* reports that "Steber is a pleasure for her strong musical impulses (especially in terms of rhythmic address), vocal freedom and generosity of feeling. Her ensemble with Thebom is exceptional."⁴⁰ Steber

sang this role 23 times, her last performance on March 3, 1956.

Steber's final Mozart role at the Met was Donna Anna in *Don Giovanni*. This role was, paradoxically, both one of her great triumphs as well as the end of her Met career. Steber first sang the role on January 18, 1955, to favorable, though not ecstatic, critical re-

sponse: "Miss Steber gave a good account of herself in the formidable role, singing its taxing music without apparent strain . . . brilliant singing of 'Or sai' . . . visually her portrayal was a credible one."⁴¹ "Anyone fortunate enough to have heard her Donna Anna . . . will have experienced a truly remarkable performance."⁴² "Donna Anna is

Steber Mozart Discography

- 1945 *Nozze di Figaro*: "Porgi amor," "Dove sono." Orchestra conducted by Erich Leinsdorf. Victor 11-8850 (78 rpm)
- 1946 *Don Giovanni*: "Batti, batti"; *Magic Flute*: "Ach, ich fühl's (in English). Orchestra conducted by Erich Leinsdorf. Victor 11-9114 (78 rpm)
- 1947 MOZART OPERATIC ARIAS. *Nozze di Figaro*: "Deh vieni, non tardar," "Non so piu cosa son"; *Abduction from the Seraglio*: "Martern aller Arten" (in English). RCA Victor Orchestra, conducted by Jean-Paul Morel. Victor VM-1157 (2 78-rpm records)
- 1948 *Nozze di Figaro*: "Voi che sapete." RCA Victor Orchestra, conducted by Jean-Paul Morel. Victor 12-0526 (78 rpm) [*Gounod's Romeo et Juliette*: "Je veux vivre" on the other side]
- 1952 *Così fan tutte*: Complete, with Thebom, Peters, Tucker, Guarrera, Alvary. Metropolitan Opera Chorus and Orchestra, conducted by Fritz Stiedry. Columbia SL-122 (3 LP records). Reissued as *Odyssey Y3-32670* in 1973.
- 1953 MOZART ARIAS. *Schauspieldirektor*: "Bester Jüngling"; *Entführung aus dem Serail*: "Traurigkeit"; *Nozze di Figaro*: "Dove sono"; *Così fan tutte*: "Per pietà"; *Don Giovanni*: "Mi tradi," "Non mi dir"; *Zauberflöte*: "Ach, ich fühl's." Columbia Symphony Orchestra conducted by Bruno Walter. Columbia ML 4694 (1 LP). Reissued as *Odyssey 32-16-0363* in 1969.
- 1959 ELEANOR STEBER AT CARNEGIE HALL. *Exsultate Jubilate*: "Alleluia"; *Idomeneo*: "Zeffiretti, lusinghieri"; *Entführung aus dem Serail*: "Martern aller Arten." Performance of October 10, 1958, with Edwin Biltcliffe, piano. ST/AND SLP-401.
- 1962 ELEANOR STEBER SINGS MOZART. *Exsultate Jubilate*: "Alleluia"; *Il Re Pastore*: "L'amero, saro costante"; "Bella mia fiamma . . . Resta, O cara," K.528; "A questo seno . . . Or che il cielo a me ti rende," K.374; "Nehmt meinen Dank," K.383; *Idomeneo*: "O smania, o furie." Symphony of the Air, conducted by Robert Lawrence. ST/AND SLS-7406.
- 1982 STEBER SINGS "STRICTLY MOZART." *Nozze di Figaro*: "Porgi amor," "Dove sono"; *Don Giovanni*: "Mi tradi"; Cantata: "Die ihr des unermesslichen Weltalls," K.619; Songs and Arias: "Abendempfindung," K.523, "An Chloe," K.524, "Das Veilchen," K.476, "Als Luise die Briefe," K.520, "Der liebe himmlisches Gefühl," K.119, "Die Zufriedenheit," K.473, "Komm, liebe Zitter," K. 351, "Nehmt meinem Dank," K.383; *Exsultate Jubilate*: "Alleluia." Recorded in Graz, Austria, August 4, 1979, with Robert K. Evans, piano. ESMF (Eleanor Steber Music Foundation, Box 342, Port Jefferson, NY 11777).

perhaps Miss Steber's best role"⁴³ In 1957 Steber starred in a new production of *Don Giovanni*, this time to greater critical acclaim. Kolodin wrote that Karl Boehm's "steadying hand lent new distinction to the Donna Anna of Steber"⁴⁴ and Speight Jenkins commented, years later, "Few who were there . . . can forget the style and bearing, not to mention the vocal excitement, of Eleanor Steber as Donna Anna"⁴⁵

By 1962 Steber had sung the role of Donna Anna twenty-two times at the Met. For the 1962-1963 season, she was scheduled to sing Donna Anna five times with Lorin Maazel, who was making his conducting debut at the Met, and this resulted in disaster for Steber. There were difficulties over tempi and interpretation and, on the opening night, Steber was not able to complete the coloratura passage in "Non mi dir". Although Kolodin remarked that Maazel's tendency "to rush, to hustle his singers from one phrase to another" caused problems,⁴⁶ it was of course Steber who received most of the adverse criticism: "Eleanor Steber no longer can handle the role of Donna Anna with any comfort, her production is shrill and strained"⁴⁷ and "It is

sad to note that the role [Donna Anna] . . . today seems to tax Miss Steber to such a degree that it is unfair to her reputation as a first-rate Mozart singer to continue in the part."⁴⁸

Steber's last performance of *Don Giovanni* was on Christmas Day, 1962, and it was her last regular appearance at the Met. She did return, as an emergency replacement, for one performance as Minnie in Puccini's *La Fanciulla del West* on January 17, 1966,⁴⁹ and she sang in the Gala Farewell to the Old Met on March 16, 1966. She has never performed in the new Metropolitan Opera House at Lincoln Center.

In retrospect, there seems to be little reason for the Met management to have dismissed Steber so abruptly. Although there is no recording available to document the quality of her last performances of Donna Anna, the reviews from the *Don Giovanni* broadcast of January 14, 1961, had been quite favorable. For Paul Henry Lang, her Donna Anna was "passionate . . . a good dramatic presence . . . a good deal of fine singing"⁵⁰, and the anonymous reviewer in the *Musical Courier*



The six principal characters in *Cosi Fan Tutte* — Steber at left (Courtesy of Metropolitan Opera Archives).

had written that "the voice of this soprano has seldom sounded as fresh and rich . . . true Mozartean style."⁵¹ In July of 1962, only four months before her last Donna Anna, she had sung in a concert version of *Tosca*, about which John Ardoin wrote: "Miss Steber was in superb voice and seemed to give the difficulties of the second act hardly a thought. Her voice soared opulently and had all its familiar softness and luster."⁵² As late as October 17 she was still "in excellent voice,"⁵³ and in April of 1963 she "sang like an angel."⁵⁴ It seems unlikely that her voice could have deteriorated, and then quickly recovered.

One can imagine how the poor reviews of Donna Anna gave Mr. Bing an excuse to terminate Steber's contract, a step he seemed to have been anticipating since the end of the 1959 season. By 1960 Steber was performing only three roles at the Met: Donna Anna, Marie in Berg's *Wozzeck*, and the Marschallin in Richard Strauss's *Der Rosenkavalier*. Other long-time Steber roles such as the Countess, Arabella, Elsa, and Fiordiligi were no longer being given to her although she felt they were still in her repertoire, and she was still performing them elsewhere.

But why had her Metropolitan career already begun to fade in the 1960-1961 season? Steber had honestly earned, not only by her twenty years of faithful and outstanding service to the Metropolitan company, but through her Voice of Firestone broadcasts and innumerable concert tours, the epithet "Diva," and with it the devotion of a large segment of the American opera-going public. It is unfortunate that the Met management by not appreciating her talents or that devotion, deprived us of another twenty years of Steber's artistry.

Ironically, Steber's present reputation and popularity have come about mainly through hindsight. Steber herself has said that, when she was in the middle of her active performing career, she didn't realize that she was something truly special.⁵⁵ Her recitals from 1972 onward and her many re-issued recordings, as well as the recent recordings she has released in support of the Eleanor Steber Music Foundation, have reminded audiences and critics of her greatness as a *bel canto* stylist. Her teaching and Master Classes have introduced the Steber style to a new generation of young singers.

In 1972, David Hamilton wrote: "What



Steber as Fiordiligi in *Così fan tutte*

should have been — on the basis of physical endowment and obvious musical intelligence — one of the great careers, never reached that level."⁵⁶ One can only speculate about the reasons for this fact, and Steber, for all her apparent openness, has been very reluctant to discuss certain aspects of her life and career. Studying the public record in the light of my personal knowledge has confirmed the fact that there are any number of "Eleanor Stebers": the public image of the "Yankee Doodle Diva," the highly skilled and knowledgeable artist with a voice of unparalleled polish, a psychologically complex woman with close family ties, and perhaps others. Peter G. Davis suggested that "her lush, voluptuous soprano and warm, direct womanliness would have made her a national treasure in Vienna . . ."⁵⁷ It is sad that these qualities were not appreciated more here at home during her Metropolitan career. Yet to judge from what has happened to her critical reputation since 1973, it is still possible that Steber's art and influence may ultimately transcend what Hamilton might consider "one of the great careers."

Any objective assessment of Steber's career (such as I have tried to present) must in the end give recognition and credit to a very great lady who has, through her singing, brought a great deal of pleasure to many people. If one considers the meaning of the phrase "Prima Donna Assoluta," Steber has surely earned it. Though this essay has concentrated on her Mozart roles, she sang ev-

everything from Bach to Barber: her active operatic repertoire included French, German, Italian, and English roles; she sang oratorio; she was and remains a marvelous recitalist with a special feeling for the French *mélodie*, the German *Lied*, and the American art song.

One of my students best summed up my own feelings about this talented woman when she said, after that 1982 Master Class, "I feel that I'm part of a continuum in some way . . . that she's a very important part in musical history and it's nice to know that . . . what she had to offer won't disappear."



Charles Kullman, Eleanor Steber, Pierrette Alarie, John Carter in a scene from *The Abduction from the Seraglio* (Courtesy of Metropolitan Opera Archives).

NOTES

¹ For a discussion of these years in Steber's career, see "Eleanor Steber 1963-1984: A Diva in Exile," by Bruce A. Beatie and Rita V. Beatie, to appear shortly in *Opera Journal*.

² Her debt to her mother is expressed clearly in the recording *Christmas Songfest with Eleanor Steber, Friends and Family*, released by the Eleanor Steber Music Foundation in 1977, in which her mother, Mrs. W. C. Steber, Sr., made her New York debut at the age of 92.

³ William Whitney left at his death an unpublished manuscript describing his approach to singing which is now in Miss Steber's possession; she has long intended to use Whitney's material in a book of her own. See Ethel Boros, "Sing Along With Eleanor Steber," *Cleveland Plain Dealer*, January 31, 1965.

⁴ Conversation with Miss Steber.

⁵ Quoted by Allen Hughes, "Eleanor Steber," *Musical America* 80 (February 1960), p. 21.

⁶ Eleanor Steber, "Let's recognize American singers," *Music Journal* 18 (April-May 1960), p. 9.

⁷ See "American in Europe," *Newsweek* (September 14, 1953), p. 94.

⁸ Sir Rudolf Bing in *5000 Nights at the Opera* (New York: Doubleday, 1972), mentions his distress, upon arriving at the Met, at the "necessary reliance on local rather than international talent . . ." (p. 132).

⁹ For Steber's own account, see John Gruen, "Will destiny give Steber another chance?" *New York Times* February 19, 1973, section 2, p. 17.

¹⁰ "CIM supplies yearly gem in recital by diva Steber," *Cleveland Plain Dealer*, January 19, 1973.

¹¹ See John Gruen (note 9), p. 39.

¹² See Roger Evans, "Yankee Doodle Diva," *National Review* 25 (September 28, 1973), p. 1059.

¹³ "The durable Miss Steber," *New York Times*, February 2, 1978.

¹⁴ "Artist of bygone era is still a joy to hear," *Philadelphia Evening Bulletin*, October 24, 1977, sec. A, p. 20.

¹⁵ "Recital Eleanor Steber, New School 19. März 1977," *Orpheus* 3 (July-August 1977), p. 343.

¹⁶ "Still, and always, a diva," *Boston Globe*, March 1, 1977, p. 11.

¹⁷ "Da capo: Eleanor Steber," *Orpheus* 5 (November-December 1977), p. 983.

¹⁸ "Singing—does it ever make sense?" *New York Times*, March 17, 1974, section D, p. 33.

¹⁹ Eleanor Steber, "The Mozart style," *Musical Courier* 153 (February 1956), p. 32.

²⁰ Quoted by Irving Kolodin, *The Metropolitan Opera 1883-1966: A Candid History*, (New York: Knopf, 1966), p. 446.

- ²¹ Review in *New York Times*, December 17, 1942, p. 46.
- ²² Kolodin (note 20), p. 437.
- ²³ *Nation*, February 12, 1944; reprinted in his *Music Observed* (New York: Oxford University Press, 1964).
- ²⁴ There are painfully few recordings of Eleanor Steber performing her major roles because, from 1949 until 1968, she was under contract to Columbia Records, while the Metropolitan Opera had a contract with RCA Victor. A discography published in the August 1978 issue of *Silver Tone* (the journal of the Eleanor Steber Music Club) lists on p. 47 a recording of the January 29, 1944, broadcast of *Le Nozze di Figaro*, released in 1974, which I have not been able to locate.
- ²⁵ Steber (note 19), p. 32.
- ²⁶ Review, *New York Times*, November 30, 1944, p. 21.
- ²⁷ See Discography, below.
- ²⁸ See Herman Klein, *The Bel Canto, with Particular Reference to the Singing of Mozart* (London: Oxford University Press, 1923). Klein had studied with Manuel Garcia, whose father had sung Mozart roles during the composer's lifetime.
- ²⁹ Steber (note 19), p. 60.
- ³⁰ Review, *New York Times*, November 30, 1946, p. 12.
- ³¹ See Discography, below.
- ³² Kolodin, *The Metropolitan Opera*, p. 463.
- ³³ I have listened to a tape copy of a pirated recording for which I have no release data.
- ³⁴ Kolodin, *The Metropolitan Opera*, p. 473. No other reviews could be located.
- ³⁵ Steber in the *Musical Courier* (note 19), p. 60.
- ³⁶ Kolodin, *The Metropolitan Opera*, p. 511.
- ³⁷ Review, *New York Times*, December 29, 1951, p. 8.
- ³⁸ "Music to my ears . . . *Così*," *Saturday Review* 48 (February 13, 1965), p. 34.
- ³⁹ See Discography, below.
- ⁴⁰ Review, *High Fidelity*, May 1974, p. 88.
- ⁴¹ Review by J.B., *New York Times*, January 19, 1955, p. 24.
- ⁴² Alan Wagner, "The new golden age of opera," *High Fidelity* 10 (January 1960), p. 56.
- ⁴³ Review by Jane W. Stedman, *Opera News*, 21 (December 10, 1956), p. 30.
- ⁴⁴ Kolodin, *The Metropolitan Opera*, p. 590.
- ⁴⁵ "At new stages: Eleanor Steber," *Opera News* 37 (March 3, 1973), p. 14.
- ⁴⁶ Kolodin, *The Metropolitan Opera*, p. 683.
- ⁴⁷ Review by Harold Schonberg, *New York Times*, November 2, 1962, p. 25.
- ⁴⁸ John Ardoin, "Opera in New York," *Musical America* 83 (January 1963), p. 86.
- ⁴⁹ Henry Butler, "Is there a soprano in the house? or, Who's on Jordan tonight?" *Harper's Magazine* 233 (August 1966), pp. 77-83.
- ⁵⁰ Review, *New York Herald Tribune*, January 15, 1961.
- ⁵¹ Review, *Musical Courier*, February 1961.
- ⁵² John Ardoin, "National: New York," *Musical America* 82 (September 1962), p. 82.
- ⁵³ Alan Rich, "Eleanor Steber heard in recital," *New York Times*, October 18, 1962, p. 48; see also John Ardoin, "Recitals in New York," *Musical America* 82 (December 1962), p. 48.
- ⁵⁴ John Gruen, "A sizzling image in song," *New York Herald Tribune*, April 11, 1963; see also Raymond Ericson, "Miss Steber offers Brahms song cycle," *New York Times*, April 11, 1963, p. 29.
- ⁵⁵ Conversation with Miss Steber.
- ⁵⁶ "Five Metropolitan opera stars, 1918-66," *High Fidelity* 22 (July 1972), p. 70.
- ⁵⁷ "The Met in the 50's — legendary?" *New York Times*, June 3, 1973, section D, p. 26.



Steber as Donna Anna

The *Gamut* Prize in Short Fiction

First Prize: "The Fleas," by Gary Fincke (Selinsgrove, Pa.)

Second Prize: "Colleagues," by Carol Felder (Milford, N.J.)

"Seeds," by Jennifer Bass Gostin (Cleveland Heights, Ohio)

"The Answer Man," by Elizabeth Searle (Oberlin, Ohio)

Runners-up: Kristin Blumberg (Cleveland Heights, Ohio)

LeAnn Jackson Carrie (Ventura, Cal.)

Lynn Wasnak (East Sparta, Ohio)

Lynne Weiss (Northampton, Mass.)

The three second-prize winners will be published in the Fall, 1984 issue of *The Gamut* (No. 13).

The winners were selected from 329 manuscripts submitted from 34 states, Canada, and the United Kingdom. Judges were John Gerlach and Daniel Melnick (both associate professors of English at Cleveland State University, published writers, and teachers of creative writing); and the editorial staff of *The Gamut*. The contest was made possible by a grant from the Ohio Arts Council.



A native of Pittsburgh, Gary Fincke attended Thiel College, Miami University, and Kent State University (Ph.D. 1974). He has taught in both high school and college, and is now Writing Program Director and Tennis Coach at Susquehanna University in Selinsgrove, Pa. He has published several hundred poems and about thirty stories in the past ten years, including work in Poetry, The Paris Review, Poetry Northwest, The Ontario Review, and the Southwest Review. In 1982 he received a poetry fellowship from the Pennsylvania Council on the Arts. His short story "After Arson" was selected for national distribution in the 1984 PEN Syndicated Fiction Project. Two chapbooks of his poetry are scheduled for publication this year. Gary Fincke says that his fiction "usually deals with minor pain, how choices are diminished yet available, how experience somehow makes us inarticulate."



Gary Fincke

THE FLEAS

The fleas remind Michael Greer of his mother's fried eggs. "They're like pepper all over my sweatsocks, Kathy," he says to his wife, and she tells him to go outside and brush them off.

The eggs always come sunny side up. They are dotted with such heavy dashes of pepper that none of his children can eat them. Greer, however, loves those eggs. "Makes them taste like something," he has explained to his family each time one of them complains.

Now he cannot walk through his own house without dozens of fleas leaping up from the carpet. They cover his tennis shoes and socks, searching immediately for the way to his skin. Everyone in the house has infected ankles.

"The damn cat," Greer says every time he picks fleas from his socks. He rubs them between his thumb and index finger. They practically disappear when he crushes them. "The damn fleabag," he mutters. No one replies. The cat scratches itself in the living room, scattering, Greer imagines, thousands of ravenous fleas.

Lately, the cat has taken to rubbing itself against Greer's ankles. He is sure the gesture, though common in cats, is intentional. "Fleas carry the damn plague," he says. "We can't live like this."

Greer's wife brings home two fog bombs from the grocery store. GUARANTEED TO KILL ALL EXPOSED FLEAS AND TICKS it says on the label. Greer is suspicious of the word "exposed," but Kathy reassures him.

"Why would they still sell it? Who would buy it again?" she tells him. They close up the house and set one in the living room and one in the basement. "Go to hell," Greer says to the empty rooms as they fill with a noxious mist.

They spend the weekend at his parents' house. As usual, his mother serves eggs for each breakfast. The children ask for cereal. "They should eat more eggs," she tells Greer. "They're not getting enough protein." His daughter names more than ten brands that she wants before she gives up and accepts bite-size shredded wheat. Greer sees that she is checking in the box for a prize.

On Sunday Greer is happy. His ankles have stopped itching. "Only 48 hours and we're almost better," he says. "In a couple of days even the scabs will start to go away."

He drives back across the state to his house of dead fleas. He walks across the living room carpet with confidence, opening windows and drapes. Slouching contentedly back onto the couch, he routinely checks his socks. They are covered with fleas. "The damn fleas are worse than before," he shouts. This time his wife agrees. She comes up from the basement looking like an extra from an army ant movie. From the knees down her pink slacks are black. She screams as she thrashes at herself on the porch.

They abandon the basement. They walk through the house and automatically go to the porch to swat the fleas away. "It's like bailing," Greer observes. "Maybe we'll get them all this way." Twice a day they vacuum the carpet. Each time Greer does a sock check there seem to be fewer black specks.

A week passes. One afternoon Greer discovers hundreds of fleas on himself after he uses the bathroom. He stands on the porch cursing. Kathy, who is standing nearby scraping paint from the house, tells him to shut up.

"What do you mean, 'shut up'? I'm covered with the damn things."

"Check the bathtub if you want to see what 'covered' means."

Greer goes back inside to see what she is talking about. Floating in an inch or two of water are thousands of fleas. Some of them look dead, but an equal number dot the sides of the tub. He turns on the shower, and spray drives them back into the water. When the sides of the tub are clean, he rushes back to the porch to clear his shoes and socks.

"I don't believe it," he yells at Kathy.

"Neither did I," she answers. "That was just one trip into the basement."

"I don't believe you brushed them into the bathtub."

"I read about it in *Family Circle*," she replies. "You stand in the bathtub and brush all the fleas into the water. They all drown, thousands of them dead all at once."

"They didn't drown, Kathy."

"Sure they did. They were all just floating around when I left."

"They were swimming."

"Fleas don't swim."

"They were swimming. They're all over the bathroom now. Whoever wrote that article should have to take a dump in our bathroom. She'd get flea bites up to her ass."

His wife looks up and down the street to see if anyone might be able to hear him. "Maybe we should call an exterminator," she says.

The next day Greer is on a ladder scraping paint. His wife does whatever she can reach from the ground; he does the rest. The house is a two story one, and his elbow aches, but on this side of the house, which faces west, the paint peels off easily in long strips that curl as they fall into the shrubbery below him. "Because most of the weather comes from the west," he tells his oldest son, whose job it is to pick peelings from the bushes.

There is about three feet of the house Greer cannot reach from the ladder. He decides to move the ladder so that he can climb to the flattest part of the roof. It appears to him that he can reach over the edge while he straddles the peak, painting the section from above.

The first thing he discovers is how hot the shingles are. He cannot keep his hands on them for more than a second, so he is forced to stand upright at once, slightly disoriented. This part of the roof slants upward to meet the steeply sloped main section of the roof. As soon as his confidence returns, Greer walks toward it.

The slope turns out to be a wall. Greer puts his hands on it to test the angle and pulls away from the heat. He puts one foot onto it and feels himself tipping over. Immediately he remembers that his neighbor has a longer ladder, that borrowing it for a few hours would take care of the problem.

The paint can and brush sit on the edge of the roof. Greer has to step backwards into space in order to use the ladder again, and he cannot do it. He tries to hunch over and use one hand for balance. It feels safer, but the hot shingles kick his hand away.

After a couple of false starts, Greer straightens up again. He checks the sun

and tries to guess how long it will be before the shingles cool.

"What're you doin' up there, Daddy?" Greer's six year-old son stands in the yard looking up at him.

"Painting."

"Do you have to paint the roof, too?"

"No."

"Then why are you on the roof?"

"Don't worry about it."

"When are you comin' down?"

"Pretty soon."

"When?"

"Don't worry about it."

Greer panics. He is suddenly sure that his son will never leave, that he will be forced to step out over nothing as if he believed in balance. He sees himself jerking the ladder back and tipping over, crashing onto the sparse grass beside his son.

"Are you all right, Daddy?" would be the first words he would hear after paralysis.

He remembers doing this before. Ten years ago he had climbed onto the roof of the first house he and Kathy had owned. There were no children; he was similarly convinced he would fall if he swung his legs off the roof.

Greer used to tell his acrophobia stories during parties. The guests would often be astounded at how little height was necessary to immobilize him: a second story window, half a length up the thick rope in a high school gym class, the top rung of playground monkey bars. He gave it up when Kathy insisted he include the roof story, how she held the ladder and coaxed him, how a water meter reader had shown up and moved the ladder to the lowest section of the roof. "Michael could have jumped from there," Kathy had said the one time the story went public. "You should have seen him, one leg dangling. His hands were white on that ladder, and all the time the meter reader was staring up at him with his head shaking back and forth so slowly you might not have realized it unless you were standing right there beside him. I think the rates went up right after that."

After the party Greer had cursed at her. He gave up all of his fear of heights stories, and now he has to turn his back to open space and step without hesitation. His son, if Greer paused, would notice fear somehow and tell his wife.

Miraculously, he thinks, his foot finds the rung and he is safe. He lifts the paint can and scurries down at a speed he imagines is like that of a professional.

The fleas diminish again. Except for the basement, which seems worse. Greer is happy to go to work even though he spends most of his days examining the screen of a word processor. He edits and proofreads, punching in codes that tell the computer to typeset. Recently, he has been reading articles about research on the effects on the eyes of long-term users of word processors. He suffers from frequent headaches. His wife tells him to have his glasses checked.

The latest article claimed to reverse the findings of several researchers. Nothing, apparently, happened to people who read the green screen. The color makes Greer think of the machines that had photographed his feet. For a couple of years one of them was in every shoe store. Then they were gone, all of them at once. Fluoroscopes — he thought he remembered that someone had suggested that they caused cancer. At any rate, getting new shoes became boring. He allowed Kathy to buy him shoes whenever she spied something on sale.

Greer does not know if all word processors have green screens. Perhaps others have blue or violet, and the fluoroscope color is just a coincidence. "Look at those cute little toes," his mother used to say. "You can almost see them growing." He has read an article about eye tumors and memorized the symptoms.

Greer's daughter finally scratches her ankles enough to allow a serious infection to set in. The small sores consolidate into large raw patches that secrete a disquieting fluid. It soaks through the gauze Kathy applies and ruins several pairs of socks.

She cries whenever Kathy touches her. "I hate this house," she says. "I hate Hobo. I wish she'd die." She had chosen the cat's name. It lived with them because she had cried about the necessity of having a kitten. "I wish a car would run over Hobo."

Greer wants to take the cat to his mother-in-law. He wants to take it to the river and hurl it in a great squalling arc.

When he and Kathy were first married, Greer's mother-in-law had owned a Siamese. He had loathed it at once. It was not allowed outside. "It's like a fat monk," he had told Kathy. "It eats to comfort itself."

Greer had never seen a litter box before. At first he had wondered what his mother-in-law was trying to grow under the sink. Something that flourished in the dark. Something that needed to be damp.

His mother-in-law talked to the cat. "You sweet thing," she would say. "Tell Mommy what you want." The cat would stretch and wait to be scratched. "Pretty baby wants his stomach rubbed, doesn't he?"

After a while Greer could not relax when they visited. The cat had a habit of leaping onto his shoulder when Greer sat down. Despite checking, he was always surprised. He imagined dying in the recliner chair, his heart shocked to a stop by a Siamese cat. It would sit on his quiet chest and mew until someone came to discover its need.

When it finally died, Greer was startled to hear that the cat was seventeen years old. Hobo was only three. Fourteen more years. His children would be gone. He and Kathy would be alone with a dying animal, their ankles a relief map of scabs and scars. His mother-in-law said she would never have another cat because "nothing could replace my Misei."

In the newspaper is an article about Lyme's Disease. Greer has never heard of it. Neither have its victims. They are all over the Northeast, having been bitten by infected ticks. The skin, at first, becomes discolored in a pattern just like the ripples radiating out in the water from a tossed pebble. Eventually, these circles disappear.

Except that the disease incubates inside the body and reappears later, making people mysteriously miserable. None of them think of the old tick bites. They never associate them with their pain. Although no one has ever died from Lyme's Disease, the research is new and incomplete. Greer wonders if fleas can carry the same infection. He checks his ankles to see if the bites look like the one pictured in the paper.

They call the exterminator. They pack suitcases and fill the car with enough toys for an overnight stay at the shore. "Just close the door behind you when you're done," Greer tells the exterminator. For a moment he is afraid his trust is naive. Kathy has assured him several times. "It's your next door neighbor's brother. He's not going to steal anything."

The temperature races into the 90's. They have trouble getting a motel room

and the beach is packed. "So what?" Kathy says. "The kids don't care, and when we get home tomorrow the house will be like new."

Greer goes for a walk, heads for the part of the beach with the least number of people. Just beyond it a section of shoreline is roped off. Several signs flap fitfully. PLEASE BEAR WITH US UNTIL THE POLLUTION LEVEL IS LOWERED TO A SATISFACTORY LEVEL one of them says. He wonders how they determine where to put the ropes; he wonders why he never learned to swim, which makes him feel foolish and uncoordinated whenever he is near water. He thinks of the times when he used to put his head underwater in the shallow end and then climb out of the pool dripping and gasping as if he had just swum several lengths.

They eat at McDonalds. Greer has brought along six paper coins that entitle him to reduced prices on Big Macs. When he presents them to the teenager at the register, she tells him the offer has expired.

"It says July 17th on here," he points out, showing her the date.

"I'm sorry." The girl apologizes in the same tone she uses for taking orders.

"Today's the 15th."

"I'm sorry. You can ask to see the manager if you'd like."

Greer is perplexed by this collapse of chronological logic. There are several people in line behind him. Altogether he would save 93¢ on three hamburgers.

"Forget it," he says and allows the coins to drop to the floor. Even his intentional littering seems irretrievably petty.

Later they watch *Superman II* on HBO in the motel room. Everyone has seen it before, and the children argue about how exciting what's about to happen is.

"This next part's good."

"No, it's not."

"It's too scary."

"It's not scary at all. Anyway, the really scary part doesn't come until almost the end."

The only part of this movie Greer likes is when Marlon Brando stands among the crystal architecture of Krypton at the beginning. There was no Roman Numeral after that section of the film. His children have already seen Richard Pryor in *Superman III*.

A party flares up in the next room. Someone has a boom box that is blasting out Kix, a local band that has almost broken nationally. Earlier, Greer had noticed the tape player on a table in the room. The door had been open in a casual way; there had been beer cans stacked on a suitcase. Now his children recognize "Body Talk" and "Loco Emotion." They try to sing along, but give up quickly.

"How are we going to sleep?" Kathy asks.

"They'll quiet down in a while."

"Don't bet on it."

They watch *Personal Best* until Greer remembers there is an explicit lesbian scene. "Bed time," he explains, shutting off the television.

"It that a dirty movie?" his daughter asks.

"No."

"Then why is it bed time?"

"Cause it's 11:30."

"We're on vacation."

"We're going home tomorrow."

"Will the fleas be gone?"

"YES."

"We'll all close our eyes if you and Mom want to watch the dirty movie."

Greer laughs a little, trying to gauge how much is appropriate. The party next door switches to Bob Seger: "I'm older now but still running . . . against the wind." Voices are singing with the tape. "Against the wind . . . still running . . . against the wind." Bob Seger goes on like this for another minute or so. Greer knows the words, too.

As he drives home, Greer has another headache. He closes one eye and then the other, checking the difference in clarity as he approaches road signs. His right eye is definitely weaker. He runs through the catalogue he has stored: a deteriorating optic nerve, undue pressure on the cornea . . .

"It went on all night, didn't it?" Kathy had taken the children out early for another swim. Greer had watched clay figure cartoons on HBO. In the middle of a movie about a family going back to live in the wilderness, the headache had started. For a while he had fuzzy pinwheels of light sparkling in front of him.

"And you never slept at all?"

"No."

"You must feel awful."

"The fleas feel worse. I'll be ok when I know that for sure."

They stop for lunch at Rax. His children order Uncle Alligator fun packs. Greer and Kathy eat sandwiches that are called BBC's. They have a coupon that saves them 69¢ when they order two.

"Is Hobo dead, Daddy?" Greer's six year-old leans as far forward as the seat belt will let him. They are turning off the thruway, a mile from home.

"No."

"Then how are the fleas going to be gone?"

"The exterminator killed them."

"Boy, is he stupid," his daughter says.

"I am not stupid. I'm going to enrichment."

"Yes, you are stupid. Everybody knows Hobo's not dead."

"She could have got run over while we were gone."

"Maybe," Greer agrees, and Kathy stares at him.

"See, Hobo's dead. She's all squashed."

They pull up in front of the house. Hobo is sleeping on a porch chair.

"No more fleas," his daughter sings.

After the rest of the family slams the doors, Greer sits in the car. Half-painted, the house reminds him of a toothpaste commercial. One side before brushing, the other side after brushing with a flouride formula. He has read about a new technique that will allow dentists to coat the teeth to seal them against decay. The treatment, researchers believe, could last for years.

His family is standing on the porch. The cat is looking up at the door, expecting it to open. Greer does not want to re-enter this house. The excuse of fleas reflects off the keys his wife pulls from her purse.

Because of an editorial oversight, the last issue of *The Gamut* failed to acknowledge the sources of several illustrations. The photographs of Judge Florence E. Allen and her campaign activities on pp. 53, 56, 57, and 59, in Jeanette E. Tuve's article on Judge Allen, were published with the kind permission of The Western Reserve Historical Society, Cleveland, Ohio. The illustrations for Gladys Haddad's article "The First Women's Colleges," pp. 75-84, were drawn from the archives of Lake Erie College, Oberlin College, and Case Western Reserve University. The editors apologize for the omission of timely acknowledgment and express their sincere appreciation for the valuable aid provided by these institutions.

COMING!

MASTERS OF NEO-REALIST CINEMA

Lou Giannetti analyzes the films of Rossellini, DeSica, Visconti

CHARTRES: MIS-RESTORING A MONUMENT

The destruction of the world's most famous cathedral

THE GYPSY LANGUAGE

An ancient language's adaptation to many environments

COMPUTER MEMORY

How computers have learned to remember more and more

THE PHYSICS OF MUSICAL SOUND

A BRIEF HISTORY OF NUCLEAR WARFARE

LOUIS XIV's GIRLFRIENDS

GIVING AWAY \$1,000,000 A YEAR

PLUS Short stories, winners of the photo contest, A Gissing partisan speaks out, Back Matter

Beginning Our Fifth Year!