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Alcohol and the Motorist:
Practical and Legal Problems of Chemical Testing

Chemical testing, as a means of determining whether a motorist is “under the influence of intoxicating liquor,” has become widespread during the past quarter-century. The authors of this Article analyze two basic problems inherent in such testing: (1) the limitations on the accuracy of the tests; and (2) the possible invasions on constitutional and statutory rights of individuals resulting from compelled submission to the tests. They also examine the constitutionality and feasibility of the so-called implied consent statutes recently enacted in some states to overcome constitutional barriers proscribing the use of chemical testing for intoxication.

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Paul E. Wilson**

In the days of horseless carriages the problem of the intoxicated motorist was not of great moment, but with the advent of the modern automobile, incidence of death on the highway attributable to excessive use of alcohol became a matter of national concern. Legislators fumbled for remedies to halt this wave of senseless killing, and prosecutors got tough. Yet convictions were difficult to obtain, for although popular sentiment zealously favored constructive and effective action, jurors were often hesitant to convict because they could not be adequately convinced that the persons they were judging had actually been drunk when the accident occurred.

Today one continues to hear about the threat of the drunken driver; however, in reality society should be more concerned with the problem of the drinking driver. One who is dead drunk or grossly intoxicated will most likely be so anesthetized that he will be unable to stagger to the steering wheel. However, somewhere between

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sobriety and deep intoxication a driver can be "under the influence of alcohol," and in this critical area of perception loss, the use of liquor can significantly diminish his coordination and cloud his judgment. Thus, a motorist's driving ability can be impaired long before he reaches the state referred to in common parlance as "intoxication" or "drunkenness."

To obviate unnecessary confusion over a choice of semantics, the National Conference on Street and Highway Safety, in cooperation with the National Conference of Commissioners on Uniform State Laws, prepared a model act which provides that it shall be unlawful and punishable for any person under the influence of intoxicating liquor to drive, or to be in actual physical control of, any vehicle.¹ By 1959, forty-five states had also adopted that criterion.²

However, adoption of such a provision does not eliminate the practical difficulty of defining the ambiguous phrase "under the influence." An individual of literal complex will assert that one glass of beer can exert sufficient influence, whereas an excessive drinker will deny that a person is under the influence so long as he is able to recognize the center line of the highway. Opinions at either extreme are absurd. Obviously, the prosecutor need prove only that the defendant's faculties are adversely affected by drink, but without

benefit of factual and concise scientific evidence, even this burden can become a frustrating obstacle.

Just a quarter of a century ago, the objective-symptom tests were the sum and substance of the prosecution’s armor. The arrested person underwent an arduous series of motion and speech tests, which included simple balancing procedures, walking and turning, handwriting, picking up coins from the floor, and reciting stock tongue-twisters such as “Methodist Episcopal” and “Around the Rugged Rock the Ragged Rascal Ran.” Because breath odor was checked and relied on, invariably the beer drinker suffered more abuse than he deserved. Many offenders were acquitted because juries were loath to base convictions upon questionable objective symptoms and the equally questionable testimony of lay and police witnesses. On the other hand, diabetics suffering from insulin shock often failed these objective tests and were easy prey for prosecutors.3

I. Chemical Tests To Determine Blood-Alcohol Concentration

The use of chemistry to aid in diagnosing inebriation was first proposed in 1914 by Widmark, a Swedish scientist. By 1930, results of chemical tests were accepted as evidence in Sweden, and in 1934 a law was adopted in Sweden which made blood tests compulsory in criminal and traffic cases.4 Two years later, the German Minister of the Interior ordered blood tests in suspected inebriation cases. Committees of the National Safety Council and the American Medical Association soon recommended adoption of chemical-test procedures in this country to assist law enforcement officers in interpreting and evaluating the usual symptoms resulting from excessive use of alcohol.5 Medical science established with certainty that the percentage of alcohol absorbed into the blood and circulated through the body is closely correlated with the degree to which a person is under the influence of intoxicating liquor. And it is possible to predict accurately the percentage of alcohol in the brain (and

3. Problems of the diabetic are illustrated in a recent opinion by the Supreme Court of Minnesota, State v. Simonsen, 252 Minn. 315, 89 N.W.2d 910 (1959). Medical science recognizes more than sixty pathological conditions which may cause one or more of the symptoms produced by the excessive use of intoxicants. Even a skilled physician may encounter difficulty in arriving at an accurate diagnosis of alcoholic influence simply by observing the usual clinical symptoms.

4. Laboratory experiments by the Swedish scientist, Widmark, were in large part accountable for this enactment. Widmark concluded that when blood-alcohol is 200 mg. % or more, individuals almost without exception are intoxicated. For an elaborate and scholarly discussion of the various methods of blood testing, see Ladd & Gibson, The Medico-Legal Aspects of the Blood Test to Determine Intoxication, 24 IOWA L. REV. 191 (1939).

hence, degree of "intoxication") by determining the percentage of alcohol contained in other body substances, namely, the blood, urine, saliva, or spinal fluid.\(^6\) Regardless of the body substance tested, the result attained can readily be translated into terms of the percentage of alcohol in the blood.

A. Ranges of Alcoholic Concentration

Blood-chemistry experts now generally recognize that a person with a blood-alcohol concentration of 0.05 per cent or less is not "under the influence of intoxicating liquor." With a concentration of 0.05 per cent to 0.15 per cent, many individuals will be "under the influence," and one evidencing a concentration of more than 0.15 per cent will invariably suffer impairment of driving ability. These ranges of alcoholic concentration, now well-recognized, have been incorporated into the Uniform Vehicle Code, which provides:

In any criminal prosecution for a violation of paragraph (a) of this section relating to driving a vehicle while under the influence of intoxicating liquor, the amount of alcohol in the defendant's blood at the time alleged as shown by chemical analysis of the defendant's blood, urine, breath or other bodily substance shall give rise to the following presumptions:

1. If there was at that time 0.05 percent or less by weight of alcohol in the defendant's blood, it shall be presumed that the defendant was not under the influence of intoxicating liquor;
2. If there was at that time in excess of 0.05 percent but less than 0.15 per cent by weight of alcohol in the defendant's blood, such fact shall not give rise to any presumption that the defendant was or was not under the influence of intoxicating liquor, but such fact may be considered with other competent evidence in determining the guilt or innocence of the defendant;
3. If there was at that time 0.15 percent or more by weight of alcohol in the defendant's blood, it shall be presumed that the defendant was under the influence of intoxicating liquor;
4. The foregoing provisions of paragraph (b) shall not be construed as limiting the introduction of any other competent evidence bearing upon the question whether or not the defendant was under the influence of intoxicating liquor.\(^7\)

6. One might suspect that cerebrospinal fluid would furnish reliable evidence of alcoholic influence; however, the only spinal fluid that does is the cisternal spinal fluid obtained from the base of the brain. There is a decided delay in passage of alcohol down the spinal canal to the lumbar region where spinal fluid may be obtained with comparative safety. Actually, the best evidence of the extent of alcoholic influence would result from a direct measurement of the alcoholic content of nerve structures themselves, but for obvious reasons this cannot be effected in living persons. If the person involved has been killed in a traffic accident, a coroner or medical examiner should have discretionary authority to order an appropriate post-mortem examination which might include a chemical test of body substances to determine what caused or contributed to the death. Commonwealth v. Capalbo, 308 Mass. 376, 32 N.E.2d 225 (1941); State v. Kelon, 299 S.W.2d 493 (Mo. 1957).

7. Uniform Vehicle Code § 11-902(b). It is a matter of common knowledge that persons of the same sex, age and weight may evidence a remarkable variability
Similar provisions have been incorporated into the motor vehicle codes of at least seventeen states. But this effort has been criticized readily, especially by many prosecutors who have encountered difficulty in convicting defendants whose blood-alcohol concentration is in the middle range; juries tend to require showing of a blood-alcohol concentration of 0.15 per cent before finding that the accused is under the influence. This criticism is probably justifiable for the vast majority of persons evidence marked impairment of driving ability when the blood-alcohol level reaches even 0.12 or 0.13 per cent.

Serious consideration should be given to a downward revision of the present formula, and greater emphasis should be placed upon corroborating factors inevitably brought to light in borderline cases. The National Safety Council Committee on Tests for Intoxication has recently recommended that the lines of demarcation be ampli-

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Tenn. Code Ann. § 59.1033 (1955) contains only the presumption that one whose blood contains 0.15% or more alcohol is under the influence thereof. Another group of state laws uses the quantitative standards employed in the uniform code, but, within the framework of the statute, the result of the test constitutes prima facie evidence instead of creating a presumption: Del. Code Ann. tit. 11, § 3507 (Supp. 1958); Ind. Ann. Stat. § 47–2003(2) (Supp. 1959); Md. Ann. Code art. 35, § 100(a) (Supp. 1959); Minn. Stat. § 169.121(2) (1957); N.H. Rev. Stat. Ann. § 262.20 (1955); N.Y. Vehicle & Traffic Law § 1192 (superseding § 70(5) effective Oct. 1, 1960); Ore. Rev. Stat. § 483.630(1)(5)(a) (1959); W. Va. Code Ann. § 1721.831a (Supp. 1959); Wis. Stat. § 325.235 (1958). Me. Rev. Stat. Ann. ch. 22, § 150 (Supp. 1959) differs only in that it provides that 0.07% or less of alcohol in the blood shall be taken as prima facie evidence that the subject was not under the influence of intoxicants. Arkansas courts receive results of chemical analyses as evidence only, Ark. Stat. Ann. § 75–1031.1 (1957) giving such evidence neither prima facie nor presumptive effect. In Kan. Gen. Stat. Ann. § 8–1005 (Supp. 1959), the legislature has uniquely failed to recognize a doubtful area in which the chemical test should not be given presumptive effect. There, if the test shows under 0.15% alcohol, the subject is presumed not under the influence, while a presumption of influence arises with the presence of 0.15% or more of alcohol in the blood. Vt. Stat. § 1159 (Supp. 1959) differs from the Uniform Vehicle Code only in that there is a conclusive presumption of non-intoxication if the blood-alcohol content is 0.05% or less.
fied in the following manner: 0.00 per cent to 0.05 per cent, safe; 0.05 per cent to 0.10 per cent, possibly under the influence; 0.10 per cent to 0.15 per cent, probably under the influence; above 0.15 per cent, definitely under the influence. This report has recognized that chemical tests, important and valuable as they are, should not constitute the sole basis for determining whether a person is under the influence of alcohol when other evidence is available.

It is almost universally recognized that the concentration of alcohol in the blood provides the best biochemical index of alcoholic intoxication. The contentions of some writers that brain-alcohol concentration is not paralleled by blood-alcohol concentration, have been proved fallacious except for during the first few minutes of alcoholic absorption following consumption of alcohol. Carefully controlled psychological tests have demonstrated that, within the limits of normal biological variation, impairment of mental and physical faculties results from the concentration of alcohol in the blood coursing through the nerve centers.

**B. Comparison of Methods of Obtaining Specimens**

The blood test is undeniably accurate, but it is often not practically feasible in the normal pattern of law enforcement. The drawing of a blood specimen, even though not dangerous, does involve an invasion of the person as well as the inconvenience incidental to making the necessary trip to a hospital, clinic, or physician's office. Furthermore, only a physician, nurse, or qualified medical technician should be permitted to draw blood, and the services of

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9. Notice, however, that even the presumption that one is definitely under the influence of alcohol is rebuttable. During the years 1948-51, a research project was conducted at Michigan State University for the National Safety Council. Tests were run to evaluate the comparability and reliability of chemical tests generally to determine alcoholic influence. When concentration had reached or exceeded 0.15%, impairment of driving ability was noted in every case. In a majority of cases, impairment was evident at a figure appreciably below the 0.15% figure.

In other countries, the intoxicated driver is generally treated more severely than in the United States. In Norway it is presumed that an operator of a motor vehicle is under the influence of intoxicating liquor when his blood-alcohol level reaches a mere 0.05%. A driver in Sweden who evidences a blood-alcohol concentration of 0.08% or more is subject to a fine proportionate to his income or may be imprisoned for a term of not more than six months. The driver who evidences an alcoholic concentration in excess of 0.15% is punished by imprisonment. Motor vehicle operators in Denmark are generally found guilty of driving under the influence when their blood-alcohol levels exceed 0.10%. See REPORT OF PROCEEDINGS OF FIRST INTERNATIONAL CONFERENCE ON ALCOHOL AND ROAD TRAFFIC, STOCKHOLM, SWEDEN 55, 73, 219 (1950).

10. It is highly important that police in making arrests for driving while under the influence follow a carefully established procedure designed to secure and record all relevant information procurable by observation and questioning. MCCORMICK, EVIDENCE § 176, at 377 (1954).

these trained individuals are not always readily available. Moreover, if there is an appreciable delay between the time of the accident or arrest and the time of drawing the blood sample, the percentage of blood-alcohol is likely to drop considerably.

Although one need not be a clinical expert to gather saliva, and only a small amount is necessary for testing purposes, nevertheless there is often appreciable delay in receiving the results of the chemist's analysis. As a rule urine tests are satisfactory, but during the absorptive phase, concentration of alcohol in the secreted urine lags considerably behind blood-alcohol concentration, because excretion through the kidneys cannot occur until after the alcohol is absorbed into the blood, distributed through the aqueous parts of the body, and carried to the kidneys. All factors considered, the breath test seems the most pragmatic substance from the standpoint of the average law enforcement agency's proficiency in obtaining blood-alcohol specimens. In practical police work, breath analysis serves a useful purpose in providing easily obtainable specimens and a quick, reasonable test result to guide the officer. The concentration of alcohol in the exhaled (alveolar) breath reflects the alcoholic concentration of the blood circulated through the lungs. Approximately 2100 volume units of alveolar breath contain the same quantity of alcohol as does one volume unit of circulating blood. However, the breath test accurately measures the concentration of alcohol in the circulating blood only if at least fifteen minutes have elapsed between consuming the last drink and undergoing the breath test. During this fifteen-minute interval, all traces of alcohol remaining in the mouth and throat will have been washed down by saliva.

Presently, there are several types of portable breath-testing units available, and if tests are properly conducted, each type accurately measures the concentration of alcohol circulating in the blood. All available units operate on essentially the same principle, that is, decolorization of a measured quantity of chemical by alcohol in the exhaled breath which has been trapped in a rubber balloon. Concentration of alcohol in the breath can be computed from the amount of breath required to cause the chemical reaction, and from this the alcoholic content of the person's blood can be ascertained. Among the perfected devices widely used are the drunkometer, the intoxi-

12. Although saliva and urine are simple substances to collect, frequently during the emotional disturbance created by arrest or accident, the person will be quite unable to produce either type of fluid.

13. This testing apparatus was developed by Doctor R. N. Harger, Professor of Biochemistry and Toxicology at the Indiana University School of Medicine. Doctor Harger is a noted authority in his field and has written extensively on matters pertaining to alcoholic intoxication. See, e.g., Harger, Some Practical Aspects of Chemical Tests for Intoxication, 35 J. Chem. L. C. & P.S. 202 (1944).
meter, the alcometer, and the breathalyzer, except for scattered adverse criticism, results obtained through their use appear to be scientifically acceptable.

C. Judicial Reliance on Breath Tests

With one outstanding exception, appellate courts have unanimously approved the various tests outlined. Approval or acceptance

14. Developed and perfected by Doctor G. C. Forrester, this device follows the principles of the drunkometer, including the alcohol-carbon dioxide ratio. Magnesium perchlorate is used rather than the permanganate employed in the drunkometer. For use in court, the chemical unit must be prepared by a chemist or skilled technician so that he may testify concerning its original condition as well as to its change incidental to the test. Only a highly trained individual is qualified to conduct an analysis with the intoximeter whereas persons with little formal training may achieve competence in the operation of the drunkometer, alcometer, or breathalyzer.

15. The alcometer utilizes iodine pentoxide as an oxidizing agent. Results are evaluated in terms of the dependability of the determination of iodine by means of the starch-iodine color measured photometrically. Developed by L. A. Greenberg and F. W. Keator of Yale University, this ingenious device is nearly foolproof. However, the unit does require a constant source of 110-volt alternating current and is both heavy and expensive. As a rule, therefore, it must be used in police headquarters. For purposes of preserving adequate records, some police departments photograph the apparatus during testing situations, with the meter-reading showing the blood-alcohol percentage, the officer giving the test, the person being examined, the clock and the calendar all on one film.

16. The breathalyzer is a relatively new device and was invented by Captain R. F. Borkenstein of the Indiana State Police Department. A breath sample is passed through a solution of potassium dichromate and sulphuric acid which reacts with alcohol. As alcohol is absorbed the solution, normally yellow, changes color; if there is no alcohol present, no color change occurs.


18. In People v. Morse, 325 Mich. 270, 38 N.W.2d 322 (1949), the Supreme Court of Michigan, by drawing an analogy to the ill-fated lie detector, found that testimony in the record failed to establish that the Harger drunkometer test had achieved general scientific recognition, and ruled that the admission into evidence of testimony concerning the drunkometer and the test results constituted reversible error. Two police officers with limited knowledge of chemistry and a young physician who had worked as a student assistant to Harger were called by the state as expert witnesses. The defendant, son of an eminent Detroit pathologist, produced five outstanding physicians as experts, one of whom (when referring to the drunkometer) stated that the "thing works like a slot machine." One of the other defense experts testified that most of the medical profession considered the method of testing unreliable. Undoubtedly the defense witnesses were reputable professional men but it was apparent that their personal contacts with the drunkometer were minimal and all based their testimony on articles written by authors critical of procedures employed in the drunkometer test. See Donigan, Chemical Tests and the Law 51 (1957).

In fairness to the Michigan opinion, it should be observed that the court did not say that the test method employed in any given case must be recognized and approved by all medical and scientific authorities. Obviously, it would be foolish to insist that any scientific experiment of this nature must be accepted without exception or dissent.

The trial scene in People v. Bobczyk, 343 Ill. App. 504, 99 N.E.2d 567 (1951), an
does not mean that courts have failed to recognize hints of disagreement in scientific circles, but as a rule courts have considered reliability of the tests to be a matter affecting the weight of evidence introduced, rather than its admissibility. In practice, test results are admitted whenever a qualified expert witness testifies that the particular test method employed is reliable and generally accepted as such by other experts in the discipline.

Although courts have recognized the accuracy of standard testing procedures and legislative enactments have lent credence to the conclusion that alcohol has a measurable psychophysical effect upon the human organism, one cannot overstate the necessity for supplying an adequate foundation before test results are offered in evidence. Each facet of the testing situation should be thoroughly explained, including the methods employed and the manner in which the analysis was made. If at all possible, one should produce an ex-

action brought in the Municipal Court of Chicago, presents an interesting contrast. Defendant was charged with driving a motor vehicle while under the influence of intoxicating liquor. In his testimony, he admitted that before the collision he had consumed two glasses of beer, but he denied having had any other intoxicants through the course of the day. Daniel Dragel, Evidence Evaluator at the Chicago Crime Detection Laboratory, who operated the drunkometer in the case, testified that the test disclosed a 0.30% concentration of alcohol in the defendant’s blood, and that in his opinion, the defendant was under the influence of alcohol at the time of arrest. Doctor Harger also testified for the prosecution as did Doctor Clarence Muehlberger, a widely known toxicologist. On the basis of this testimony, the defendant was convicted. And on appeal to the Appellate Court of Illinois, the conviction was affirmed. The question had never been presented to an Illinois court of review prior to this decision. The court, while rejecting the opinion in People v. Morse, supra, relied heavily upon a more recent Texas decision, McKay v. State, 155 Tex. Crim. 416, 285 S.W.2d 173 (1950), which recognized the Harger drunkometer as scientifically acceptable. See also People v. Garnier, 20 Ill. App. 2d 492, 156 N.E.2d 613 (1959).

19. "This court may recognize generally accepted scientific conclusions, even though there should be some who disagree with them. In all probability a scientist may be found who will disagree with practically every generally accepted scientific theory." McKay v. State, 155 Tex. Crim. 416, 419, 285 S.W.2d 173, 174 (1950). The following cases are particularly applicable to the problem of expert testimony and the reliability of the various testing devices: State v. Olivas, 77 Ariz. 118, 267 P.2d 893 (1954); State v. Hunter, 4 N.J. Super. 531, 68 A.2d 274 (1949); Toms v. State, 95 Okla. Crim. 60, 239 P.2d 812 (1952); Jackson v. State, 159 Tex. Crim. 228, 262 S.W.2d 499 (1953); Annot., 159 A.L.R. 209 (1945).

20. Certified copies of official or unofficial reports concerning test analyses cannot qualify as adequate evidence to prove the authenticity, accuracy, or results of a chemical test performed to determine alcoholic influence. One cannot by-pass the need for testimony by qualified experts in the field, because a written laboratory report without more is hearsay and inadmissible as evidence. This does not mean that such records and reports do not serve a useful function, for they may be used for refreshing recollection, and when maintained in the usual course of business, are admissible to aid in proving elements of the case which do not involve expert conclusions and opinions. Estes v. State, 162 Tex. Crim. 122, 283 S.W.2d 52 (1955). It is not absolutely necessary that the expert testifying have conducted every phase of the chemical analysis personally; if the analysis in question was conducted under his supervision and control, he is a proper party to testify concerning test results. State v. Bailey, 184 Kan. 704, 339 P.2d 45 (1959).
pert witness who can attest not only to the scientific reliability of the chemical testing procedures followed but also vouch for their correct administration in the particular case being litigated. In order to qualify as an expert on all phases of the subject, one needs advanced training in chemistry and some basic training in medicine. Because of the nature of their training and practical experience, physicians, biochemists, toxicologists, and medical technologists usually are accepted as experts. Through training and experience, the ordinary police officer may learn to competently operate one or more of the breath-testing devices. Yet, obviously he cannot testify concerning the quality or strength of chemicals used or the chemical or mathematical formulas employed; nor can he interpret and analyze the numerical readings which indicate the existence of a given quantity of alcohol in the blood.\(^1\)

**D. Miscellaneous Limitations on the Accuracy of the Chemical Tests**

Prosecutors must be warned of the dangers in assuming that a given concentration of alcohol will produce substantially the same degree of intoxication in everyone, for individual tolerance and other subjective factors make this assumption false. An abstainer may perform subnormally when his blood-alcohol level reaches a threshold value of 0.02 to 0.04 per cent. However, as much as 0.08 to 0.09 per cent blood-alcohol concentration may be required to measurably impair the behavior of a heavy drinker.\(^2\)

Test results reveal neither the amount of alcohol consumed nor when the drinking was done, but they do indicate the amount of alcohol remaining unburned in the blood at the time the specimen was obtained. Obviously, the prosecutor is most directly concerned with the percentage of blood-alcohol present at the time of the incident in question. Although there may be an appreciable time lag between occurrence of the incident and the time of taking a specimen for analysis, there is ample authority upholding the admissibility of expert testimony estimating the percentage of blood-alcohol concentration present at the time of the event on the basis of the results of a test conducted subsequent to the event. Reliable estimates by expert witnesses may be made by a mathematical process known as extrapolation. Given a known rate of elimination of blood-alcohol in the aver-

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\(^1\) Alexander v. State, 305 P.2d 572 (Okla. Crim. App. 1956); Hill v. State, 158 Tex. Crim. 313, 256 S.W.2d 93 (1953); Omohundro v. County of Arlington, 194 Va. 773, 75 S.E.2d 496 (1953). As a rule, an individual who operates an intoximeter must be a qualified chemist or technician and will therefore be able to testify in court concerning the chemical phases of the test conducted. Qualifications for operation of the drunkometer, alcometer and breathalyzer are less exacting, and it is very likely that the operator himself will be unable to provide adequate information with respect to scientific principles involved in the testing situation.

\(^2\) See note \(^7\) supra.
age person, an expert can reasonably estimate the percentage of blood-alcohol in the *average* person at the time of a certain event, based upon the quantity of alcohol in the blood as shown in the chemical test. An expert witness may provide a reasonably accurate estimate of the blood-alcohol concentration of a *particular* person if he is given definite facts from which he can determine the rate of elimination taking place in the individual's body.\textsuperscript{23}

The admissibility of expert testimony of this type was challenged in an Indiana case,\textsuperscript{24} where the problems involved in examination of the expert witness were typical of those faced by prosecutors throughout the nation. The defendant had been charged with manslaughter following a fatal crash. A drunkometer test revealed that one hour and forty-five minutes after the accident the percentage of alcohol in the defendant's blood was .189 per cent by weight. The prosecution posed a hypothetical question which, in substance, asked the expert witness, Doctor R. N. Harger, whether he could tell what the percentage of alcohol would have been at the time of the accident. Defendant's objection on the ground that the question called for a guess or broad conjecture on the part of the witness was overruled. Doctor Harger then stated that the *minimum* alcoholic concentration an hour and forty-five minutes preceding testing would have been .165, although he explained that the percentage might have been higher because some persons are faster "burners" than others. The Supreme Court of Indiana ruled that the hypothetical question was proper in this instance and pointed out that the weight to be given the expert's testimony was for the jury to determine by considering his knowledge of the subject about which he testified.\textsuperscript{25}

23. By taking two or more specimens from the individual during regularly spaced intervals, the expert can determine the rate of elimination in the individual on the particular occasion, and can further determine the blood-alcohol concentration in the same individual at the time of the event in issue. Donigan, Chemical Tests and the Law 38 (1957); Newman, Proof of Alcoholic Intoxication, 34 Ky. L.J. 250 (1946).


25. Note that this would, in effect, be of great weight, for Doctor Harger developed the drunkometer. See note 18 supra. In the following decisions, courts have approved admissibility of expert opinion concerning concentration of alcohol at the time of the incident, based upon results of delayed tests. People v. Haeussler, 41 Cal. 2d 222, 260 P.2d 8 (1953), \textit{cert. denied}, 347 U.S. 931 (1954) (approximately 4 hours delay); Nicholson v. City of Des Moines, 246 Iowa 518, 67 N.W.2d 533 (1954) (approximately 3½ hours delay); State v. Stairs, 143 Me. 245, 60 A.2d 141 (1948) (approximately 4 hours delay). While alcohol concentration at the time of the event is usually higher than that prevailing at the time a sample is received, the converse may be true under extraordinary circumstances. If one should consume a considerable quantity of alcohol and become involved in an accident before the absorption phase is completed, a subsequent chemical test will likely show a blood-alcohol concentration higher than that existing at the time of accident. See Commonwealth v. Hartman, 383 Pa. 461, 119 A.2d 211 (1956). Attention is directed to the statutes of several
Although chemical tests have proved to be of undoubted value as an evidentiary aid, they should not be accepted as the sole criterion for determining whether a given person was under the influence of intoxicants. Complete reliance upon scientific evidence may result in the construction of a clinically infallible determination of intoxication, but chemical symbols and arithmetical computations, accurate as they may be, seldom convince a skeptical and unsympathetic jury, particularly in borderline cases. Moreover, other evidence is ordinarily easy to obtain. As a rule, police officers do not conduct hap hazard searches for motorists who are under the influence of alcohol. Before a motorist attracts the attention of an officer, he must have acted carelessly in some overt way, such as driving in a reckless manner, passing another car on a hill or around a curve, or weaving back and forth across the highway. And after being apprehended, the motorist may exhibit other characteristics suggestive of overindulgence in intoxicants. The officer normally checks the motorist’s appearance, behavior, and speech and then proceeds to inquire as to when, where, and how much the person had been drinking. Obviously, then, successful prosecution does not hinge upon a test-tube reaction but rather upon the sum total of the officer’s observations as substantiated by the results of the chemical test.

II. Possible Constitutional and Statutory Restrictions on Chemical Testing

The great majority of courts will admit evidence of alcoholic tests where, as is true in most cases, the person voluntarily submits to states which limit admissibility of chemical-test evidence to those situations wherein specimens were taken within two hours of the event or within two hours of the time of arrest. For example, Minnesota provides that a court may admit evidence of the percentage of alcohol in a person’s blood, if the test was taken voluntarily within two hours after commission of the offense. Minn. Stat. § 169.121 (1957). The statutes of Delaware, New York, Virginia, and Wisconsin contain similar provisions. For pertinent statutory citations, see note 2 supra.


27. The Alcoholic Influence Report Form, published by the National Safety Council, suggests a thorough course of inquiry to be followed in interrogating persons suspected of driving while under the influence of alcohol.

28. Some states have statutes which might prohibit convictions based solely upon chemical test results. For example, in Wisconsin, the chemical-test statute specifically requires corroborating physical evidence before evidence that a person has a blood-alcohol concentration of 0.15% or more will be considered as prima facie evidence that he was under the influence of intoxicants. Wis. Stat. § 325.235 (1955). Schwartz v. Schneuriger, 269 Wis. 535, 69 N.W.2d 756 (1955) (strong odor of intoxicants and eye witness testimony as to manner of driving vehicle considered sufficient corroboration).

In addition, no statutory presumption in this area of legislation is conclusive, and as long as presumptions remain rebuttable, orthodox methods of jury persuasion remain intact. State v. Bailey, 184 Kan. 704, 339 P.2d 45 (1959).
testing. However, an apprehended person's refusal to do so may raise further legal problems concerning the use of chemical tests: (a) whether involuntary submission constitutes a violation of the privilege against self-incrimination; (b) whether the taking of a body substance amounts to an unlawful search and seizure; (c) whether the chemical test itself violates due process; and (d) if a physician is involved, whether the time-worn, physician-patient privilege applies.

To avoid these dilemmas, every law enforcement officer should make special effort to obtain the consent of each arrestee. In addition it would be prudent (whenever feasible) to obtain his signature acknowledging that he voluntarily consented to the test and that it was implemented without pressure, coercion, or duress. If the arresting officer carefully adheres to these simple precautions, the prosecution will be in a superior position should the defendant decide to create an atmosphere of compulsion.

A. Self-Incrimination

(1) Scope of the Privilege

A series of decisions handed down through the past century has determined that the Federal Bill of Rights, including the fifth amendment protection against self-incrimination, binds only the federal government. In *Twining v. New Jersey*, the Supreme Court of the United States held that the fourteenth amendment does not impose the self-incrimination restriction upon state action either under the privileges and immunities clause or as a requirement of fair trial under the due process clause of that amendment. And the Court recently reaffirmed the due process part of this policy-making decision in *Adamson v. California*. Nevertheless, a privilege against self-incrimination does apply in every jurisdiction in the nation —
in forty-eight states by constitution, and in the remaining two by statute. As the constitutions and statutes of the several states vary in terminology, so do the decisions interpreting the scope of privileges provided for.

Traditional view. Historically, the privilege against self-incrimination has had little, if any, pertinency to the taking of body substances. As expressed in federal and state constitutions, the privilege provides a safeguard against being compelled to be a witness, being compelled to give oral testimony in court, and being compelled to produce in court (or in any formal governmental hearing) under judicial order, documents and other objects the forced disclosure of which would amount to testimonial compulsion. In Dean Wigmore's words: "It is the employment of legal process to extract from the person's own lips an admission of his guilt." The prohibition against compelling a man to be a witness against himself is a condemnation of the use of physical or moral compulsion to extract communications from him, and does not apply to the admissibility in evidence of his body substances.

Broader view. Most of the recent cases support the earlier decisions which applied the privilege only to testimonial compulsion. However, the arena is not free from dissent. The Texas decisions are typical of the minority which clings to a broader interpretation of the privilege. In Apodaca v. State, the accused had killed a pedestrian, and upon his arrest was required to furnish a urine specimen and perform a routine of muscular movements—the usual sudden turns, walking the line, and the finger-on-nose exhibition. In the opinion of the examiners, both sets of tests indicated alcoholic intoxication, but the appellate court ruled that compelling such action violated the privilege against self-incrimination.

Fifteen years later, in Trammell v. State, the Texas Court of Criminal Appeals adhered to the same strict principle announced in Apodaca, which required express consent of the accused before submission to a clinical-symptom test or a chemical test of the breath.

35. 140 Tex. Crim. 593, 146 S.W.2d 381 (1941).
or body fluids. In the Trammell case, the accused was injured in a traffic collision and was promptly transported to a hospital, where a specimen of blood was extracted from his arm. At the trial a toxicologist testified that the blood sample had been analyzed under his supervision. Over objection by the defense, the witness stated that the alcoholic concentration in the sample was 0.828 per cent. He further testified that no authority would disagree that such alcoholic concentration indicated definite intoxication. On appeal, the Texas Court of Criminal Appeals applied the self-incrimination privilege to this type of compelled conduct, thereby reversing the trial court's admission of this testimony, and proceeded to consider whether defendant had waived the privilege. There was no testimony showing that the accused had consented to the taking of the blood sample, but neither was there testimony that he did not assent or agree. The appellate court held that the state failed to prove that the specimen was taken with the consent of the accused, and thus the accused had not waived his privilege against self-incrimination. Consequently, the testimony of the toxicologist was inadmissible.

Contrary, then, to the traditional concept of the scope of the privilege against self-incrimination is this second view which extends the protection of the privilege to compelled conduct other than giving oral testimony and producing in court documents and other objects. Under this view, passive submission may be compelled but not active cooperation. Thus, although the accused might be required to submit to finger-printing or to the extraction of blood and other body substances, he could not be compelled to provide a sample of his handwriting or aid in re-enacting the crime. Conceivably, under this point of view, the accused might be required to rise in court for purposes of identification and inspection of his features; yet he could not be compelled to do any act or expose any part of his body the result of which might be used as the basis for an inference against him. Unfortunately, the fine line distinguishing enforced activity and enforced passivity does not lend itself to easy and immediate discernment, and it seems inevitable that the drawing of subtle distinctions will lead to indistinguishable conflicts among judicial opinions.

Black-Douglas view. The privilege against self-incrimination has been expressed in a most novel yet humanitarian light by Justices Black and Douglas in recent concurring and dissenting opinions.
They would extend the protection of the privilege even to passive submission. Neither Justice would draw a constitutional distinction between involuntary extraction of words, involuntary extraction of the contents of the stomach, and involuntary extraction of body fluids, when the evidence obtained is used to convict. Mr. Justice Black has said: "[A] person is compelled to be a witness against himself when . . . incriminating evidence is forcibly taken from him by a contrivance of modern science." Mr. Justice Douglas agreed and stated that "words taken from his lips, capsules taken from his stomach, blood taken from his veins are all inadmissible provided they are taken from him without his consent . . . [—] inadmissible because of the command of the Fifth Amendment." Both Justices assert that a standard of due process for trial by the federal government should likewise be observed by state authorities and continually insist that inhibitions on governmental action inherent in the fifth amendment should be imposed upon the states through the fourteenth amendment.

Dissenting in Breithaupt v. Abram, they asserted, without equivocation, that under our system of government, police cannot compel people to furnish the evidence necessary to send them to prison. Interpreted out of context, a statement of this type seems to imply that a citizen may react as an extreme individualist at all times, undaunted by duties to cooperate for the preservation of a decent social order. The high level of social and moral values inherent in the structure of a democratic society undoubtedly endows citizens with a generous number of rights and privileges that are routinely denied in a totalitarian community. However, this factor does not automatically create an inference that the democratic state is powerless to perpetuate its sense of order in the face of an obstinate citizenry.

Mr. Justice Douglas has noted that judges and lawyers often forget that the Anglo-American system of criminal law is designed to reduce police control and increase judicial control. The Black-Douglas dissents constantly remind us of this very important principle, and one cannot deny the import of their pleas for a rational consideration of individual rights. However, sometimes comparatively unimportant individual interests are unnecessarily overemphasized at the expense of legitimate governmental interests. Granted, there is an urgent need to provide protection against torture, both physical and mental; yet it appears far-fetched to insist that Justice

42. Id. at 179 (Douglas, J., concurring).
43. See note 31 supra.
will perish simply because the accused is subject to a duty to respond to orderly governmental inquiry.\textsuperscript{46} Actually, Mr. Justice Douglas has conceded that "an accused can be compelled to be present at trial, to stand, to sit, to turn this way and that, and to try on a cap or a coat."\textsuperscript{47} Even he therefore sanctions a very low degree of governmental compulsion of an individual. All legal writers and jurists agree that somewhere along the continuum compulsion becomes obnoxious; in Douglas' view this occurs at a point short of outright physical coercion. The exact point at which this line must constitutionally be drawn has never been clearly defined nor agreed upon and very likely never will be.

\textbf{(2) "Consent" by Unconscious Persons}

In many accident cases, the person is actually unconscious at the time the test is given or the sample drawn and is therefore in no position to voice disapproval. Regardless of this obvious deprivation of privacy, most authorities have held that evidence so obtained is admissible.\textsuperscript{48} Moreover, the fact that a person has sufficient alcohol in his blood to make him an unsafe driver does not automatically render him incapable of "consenting" to a chemical test.\textsuperscript{49} The general rule is that if the accused is mentally capable of perceiving or comprehending events and his surroundings, he is legally capable of consent. Yet it is conceivable that extreme intoxication will point to lack of real consent and necessitate rejection of chemical-test evidence in those jurisdictions where express consent is a condition precedent to the admissibility of test results.\textsuperscript{50} However, a majority of jurisdictions have admitted chemical-test evidence without proof of actual consent, barring objection on constitutional grounds.\textsuperscript{51}

\textsuperscript{46} See the majority opinion written by Mr. Justice Cardozo in Palko v. Connecticut, 302 U.S. 319 (1937).  
\textsuperscript{47} Rochin v. California, 342 U.S. 165, 179 (1952) (Douglas, J., concurring).  
\textsuperscript{48} People v. Haeussler, 41 Cal. 2d 252, 260 P.2d 8 (1953), cert. denied, 347 U.S. 931 (1954). While Mrs. Haeussler was unconscious, a hospital attendant withdrew five cubic centimeters of blood from her arm. Test results were admitted in evidence, the Supreme Court of California holding that this procedure did not violate either the privilege against self-incrimination or the right to due process. See also Breithaupt v. Abram, 352 U.S. 432 (1957); Block v. People, 125 Colo. 36, 240 P.2d 512 (1951), cert. denied, 343 U.S. 978 (1952); State v. Sturtevant, 96 N.H. 99, 70 A.2d 909 (1950).  
\textsuperscript{50} In two states the case law requires express consent. State v. Wardlaw, 107 So. 2d 179 (Fla. 1958); McCreary v. State, 307 S.W.2d 948 (Tex. Crim. App. 1957). Chemical-test legislation in Colorado, New Jersey, North Dakota, Oregon, and Virginia requires the person's express consent. See relevant statutes cited note 2 \textit{supra}. In Minnesota, admissibility of test results is dependent upon a voluntary submission. M\textit{n}N. \textit{STAT.} \S 169.121 (1957).  
\textsuperscript{51} Where the subject is unconscious at the time the sample is drawn, in actuality he neither consents nor refuses. Without express statutory prohibition or objection raised on constitutional grounds, evidence of test results is generally admissible in such cases.
Even in jurisdictions where consent is required, it is generally held that written consent is not necessary, nor is it necessary to warn the accused, before he submits to a chemical test, that the results might be used against him in a future criminal proceeding.

B. Unlawful Search and Seizure

The fourth amendment prohibits unreasonable searches and seizures, but it does not necessarily preclude the use in a criminal trial of evidence obtained by such a search. Although the Supreme Court has held that such illegally obtained evidence is inadmissible in the federal courts, the exclusionary rule does not extend to the states. Whether a search of private property or personal effects is reasonable obviously must be determined by the facts and circumstances of the individual case. Normally, a search warrant must be obtained, but when the search is incident to a lawful arrest, failure to obtain a warrant does not necessarily make the search unreasonable.

The problem is whether the several constitutional prohibitions against unreasonable searches and seizures should apply, under certain conditions, to the taking of breath and other body substances for chemical-testing purposes. The Supreme Court of the United States has not yet ruled on the reasonableness of an internal search of the body or its substances; nor has it adopted a fourth amendment

52. Written consent is required in Oregon by statute. Ore. Rev. Stat. § 483.630 (1955). In Texas, a confession statute requires that a confession obtained from an accused under arrest be in writing. However, the Texas courts have not extended this statutory requirement to the obtaining of specimens for chemical testing, and oral consent is sufficient. Tealer v. State, 163 Tex. Crim. 629, 296 S.W.2d 260 (1956); Brown v. State, 156 Tex. Crim. 154, 240 S.W.2d 310 (1951).


54. U.S. Const. amend. IV.

55. Wolf v. Colorado, 338 U.S. 25 (1949). It should be observed that in Wolf although the Court held that the illegally-obtained evidence need not be excluded, it also held that provisions of the fourth amendment were enforceable against unreasonable state action through the due process clause of the fourteenth amendment. Conceivably, the opinion stands for the proposition that obtaining evidence by a search which would have violated the fourth amendment if made by federal officers necessarily violates the fourteenth amendment when made by state officers. The by-products of Wolf are thoroughly analyzed in Kamisar, Wolf and Lustig Ten Years Later: Illegal State Evidence in State and Federal Courts, 43 Minn. L. Rev. 1083 (1959).


57. "The relevant test is not whether it is reasonable to procure a search warrant, but whether the search was reasonable. That criterion in turn depends upon the facts and circumstances—the total atmosphere of the case." Rabinowitz v. United States, 339 U.S. 56, 68 (1950), overruling Trupiano v. United States, 334 U.S. 699 (1948).

standard for such searches. And although lower federal courts and state courts have passed upon the problem on numerous occasions, one fact remains clear— their opinions are not always in accord and their analogies are frequently strained.

(1) The Blackford Decision

Although not directly related to the chemical-testing problem, the recent Ninth Circuit decision in Blackford v. United States, inched close to a solution of the general problem of internal bodily search. Blackford was stopped by customs officers at the international boundary line in California. He was asked to remove his coat, whereupon numerous puncture marks were revealed in the veins of his arms. Further examination of his person disclosed that the defendant may have concealed a quantity of heroin in a body cavity. Thereafter he was taken to a hospital where, despite his denial of concealment and his resistance to search, qualified medical personnel removed the heroin. In a subsequent prosecution for illegal importation and concealment of heroin, the defendant’s motion to suppress the evidence thus obtained was denied. The court of appeals affirmed the denial, holding that the search and seizure did not violate either the fourth or fifth amendment. In arriving at its decision, the court noted, however, that the fourteenth amendment provided a bulwark against unreasonable searches and seizures of persons as well as places. The court applied the test of reasonableness to the conduct of the officers, noting that this was a stricter test than that applied to state proceedings under the due process clause of the fourteenth amendment.

The fourteenth amendment draws no precise distinction between searches of property and searches of the person, but accepted values concerning the dignity of the human body compel a conclusion that some reasonable limit should be placed upon internal bodily searches. Some extremists, dedicated to the idea that the human body is inviolate, assert that almost all internal searches are unreasonable. However, this thesis seems undesirable in that a total pro-

59. For a comprehensive treatment of the historical implications of the fourth amendment, see Fraenkel, Search and Seizure Developments in Federal Law Since 1948, 41 Iowa L. Rev. 67 (1956); Trimble, Search and Seizure Under the Fourth Amendment as Interpreted by the United States Supreme Court (pts. 1–4), 41 Ky. L.J. 196, 388, 42 Ky. L.J. 197, 423 (1952–1954).


62. Due process requirements are discussed at text accompanying notes 77–89 infra.

63. This seems to represent the viewpoint of Mr. Chief Justice Warren and Justices Black and Douglas who dissented in Breithaupt v. Abram, 352 U.S. 432, 440
hibition of internal bodily searches would unnecessarily place valuable evidence beyond the reach of law enforcement officers. The Blackford decision indicated that there is nothing in the Bill of Rights which makes a body cavity a legally-protected sanctuary for carrying narcotics. Thus the court concluded that removal of foreign matter from body cavities does not per se violate the Constitution any more than compelling a person holding narcotics in his clenched fist to open his hand. Granted, the court decided only the precise issue before it and did not offer carte blanche authority to subject a human being to any type of physical examination, but the court did state that it considered pain and danger to be minimal factors in that situation, particularly since much of the pain resulted from the defendant's own resistance.

Although stating that the test of reasonableness was more stringent than that required by the fourteenth amendment, the court nonetheless relied on Rochin v. California\textsuperscript{64} and Breithaupt v. Abram,\textsuperscript{65} fourteenth amendment cases, as furnishing the most practical guides. The court referred to several material factual differences which led it to conclude that Rochin was not dispositive of Blackford. Rochin was subjected to a series of abuses and violations of his rights, commencing with an unlawful entry into his home, continuing with the forcible attempt by officers to prevent him from swallowing capsules, and culminating in a brutal episode of stomach pumping. On the other hand, the police officers made no attempt to force evacuation of the heroin from Blackford's rectum, and the actual physical examination was conducted by qualified medical personnel, under sanitary conditions, and with the use of medically-approved procedures. Moreover, the procedure employed was a relatively simple one, involving little danger of lasting illness or disability. Pain did result when Blackford refused to cooperate; however, the court was correct in discounting the pain element in this instance, for to hold otherwise would place a premium on violent and stubborn resistance.

\textsuperscript{64} Cf. United States v. Townsend, 151 F. Supp. 378 (D.D.C. 1957). In the Townsend case, defendant was charged with carnal knowledge of a girl under sixteen, and there was evidence that the complaining witness was menstruating at the time of the alleged offense. Informed that chemical tests would be run on his penis to determine the presence of blood, defendant offered physical resistance, but a police detective overcame this resistance by twisting the defendant's arms behind his back. Meanwhile a sergeant pulled down the defendant's trousers and swabbed his penis with patches of chemically treated cotton. In a well-documented opinion Judge Youngdahl concluded that the defendant was deprived of due process of law under the fifth amendment. Aside from the fact that evidence obtained in this case was of doubtful probative value, it must be noted that the defendant was taken to police headquarters in the middle of the night and denied the right to contact an attorney.

\textsuperscript{65} More extensive comment regarding due process aspects of the Rochin decision follows at text accompanying notes 77–89 \textit{infra}.
Furthermore, the officers in Rochin had only a suspicion that the defendant had swallowed narcotic pills, but the officers in Blackford had almost incontrovertible proof that their subject possessed hidden narcotics. They knew that Blackford was an addict on parole from a state drug conviction, and they knew specifically what Blackford had concealed, where it was, and how much was there. In fact, Blackford himself had admitted his illegal possession of the narcotics. The court also took judicial notice of the fact that in the preceding two and one-half years, twenty per cent of the smuggling cases in the San Diego area had involved narcotics concealed in body cavities. This served to point up the gravity of the social problem presented by narcotics violations, and there was no doubting that the court of appeals was aware that narcotics laws have been traditionally difficult to enforce.66

Although the Blackford case may present a common sense solution of the search and seizure problem relating to the seizure of foreign substances from body cavities, it leaves unanswered the question whether constitutional prohibitions should be extended to the forceful obtaining of body substances. Analogies may clarify some of the patent ambiguities, but analogies fail to be convincing unless translated into practical terms. Dean Ladd and Professor Gibson have insisted that the constitutional "provision against unlawful searches and seizures was designed to serve as a security to persons in their possessions and effects, to protect the individual from an invasion of his home without proper warrant . . . and to protect the individual from being searched personally for his possessions without reason or suspicion."67 In essence, this type of protection deals with things which a person might possess and with the privacy of his home rather than with his personal make-up or physical condition. Thus, they would advocate that a test of body substances or a physical examination would not come within the range of the constitu-

66. Some lower federal court cases subsequent to Blackford have followed Blackford and some have not. In King v. United States, 258 F.2d 754 (5th Cir. 1958), the Fifth Circuit cited Blackford in upholding a similar search, noting the sterility which would follow efforts at law enforcement if searches of this type were to be prohibited. Similarly, a federal district court has held that where a defendant, in crossing from Mexico to the United States under the influence of narcotics, was properly seized and arrested, and the arresting officers had reason to believe that he was concealing narcotics, extraction of a drug container from the defendant's rectum by a physician under police direction did not "shock the conscience," within the meaning of the phrase as used by the Supreme Court in Rochin v. California, 342 U.S. 165, 172 (1952). Application of Woods, 154 F. Supp. 932 (N.D. Cal. 1957), appeal denied, 249 F.2d 614 (9th Cir. 1957). Accord, United States v. Michel, 158 F. Supp. 34 (S.D. Tex. 1957). Two other district courts, however, have held that the use of a stomach pump and an emetic to recover swallowed narcotics is unreasonable. United States v. Willis, 85 F. Supp. 745 (S.D. Cal. 1949); In re Guzzardi, 84 F. Supp. 204 (N.D. Tex. 1949).

tional restraint upon unlawful search and seizure. Historical purpose supports this contention of Ladd and Gibson, for the fourth amendment originally was designed to curb the nefarious practice of arbitrary government invasion of private homes. It is difficult to believe that the framers of the Constitution could have envisaged the uses to which biochemistry might be put in a twentieth-century world, and there is strong reason to doubt that they would have included a search for body substances as such within the ambit of their prohibitory sanctions. If case law recognized and enforced this proposition, the search and seizure problem would not beg solution, but precedents relating to searches and seizures of body substances are few in number and rarely reveal unity of sentiment. For pertinent chemical-test cases, we must consult state-court decisions.

(2) Admissibility of Chemical-Test Results in State Courts

Several years ago, the Supreme Court of Arizona ruled that forcefully obtaining a breath specimen for chemical-testing purposes did not violate the search and seizure provision of the Arizona Constitution. Following arrest for driving while under the influence of intoxicating liquor, the defendant refused to submit to a drunkometer test. However, despite his strenuous objections, police officers strapped him to a chair, and while one held the defendant's head steady, another captured his breath by means of a rubber suction bulb and tube. Holding that this police action did not constitute an unlawful search and seizure, the appellate court observed that the defendant was not forced to exhale breath from his lungs, inasmuch as he exhaled voluntarily and, in fact, of necessity to survive. The moment his breath passed his lips, it was no longer his to control but became a part of the surrounding atmosphere. Thus the officers had the lawful right to capture his breath for use as evidence. Under the circumstances, this was a novel holding but not convincing as a precedent particularly with reference to the factor of volition.

In People v. Duroncelay, the Supreme Court of California ruled that the taking of a blood sample did not constitute an unlawful search and seizure. There was no evidence that the defendant had consented to the taking of the test; nor, on the other hand, was there evidence that he verbally protested against its being performed. There was evidence, however, that he drew his arm away when the nurse first attempted to insert the needle and that an ambulance driver then held his arm while the nurse extracted the blood. Affirming the trial court's ruling admitting the chemical-test results, the supreme court found that there was a lawful arrest in this instance.

69. 48 Cal. 2d 766, 312 P.2d 690 (1957).
and stated that the search was not unlawful merely because it pre-
ceded, rather than followed, the arrest. A search may constitution-
ally be made either before or after arrest if reasonable grounds for
making an arrest exist at the time of the search. It was not apparent
exactly when the arrest had been made, but since the defendant
was unconscious for a greater part of a forty-eight hour period, it
would be assumed that the arrest took place after that time.

Some courts, however, have been more lenient with the defend-
ants. Despite the fact that Iowa does not adhere to the rule exclud-
ing evidence obtained through an unreasonable search and seizure,
the Supreme Court of Iowa has held evidence of a blood test
inadmissible when blood was obtained from the body of an uncon-
scious motorist, no arrest having been made or information filed.\(^7\)
The defendant, painfully injured in an automobile collision, was
transported to a nearby hospital for treatment. While he was on the
operating table, a coroner from another county proceeded to draw
blood from his arm, without requesting the consent of the defend-
ant's wife, who was waiting in a hospital corridor. Here, then, was
a situation where a volunteer, without legal warrant and without ex-
press or implied assent, drew blood from an unconscious person to
insure the success of possible future prosecution. In rejecting expert
testimony relative to the chemical-test results, the majority did not
rely on unreasonable search and seizure or lack of due process but
was content to rest the decision upon its abhorrence of the coroner's
insensate behavior. Although the case may have been correctly
decided on its precise facts, it is a doubtful precedent for future
action.\(^7\)

A recent Wisconsin case, \textit{State v. Kroening},\(^7\) rejected chemical-
test evidence on grounds of unreasonable search and seizure. Fol-
lowing an automobile accident, the defendant was admitted to a
hospital where a blood test was performed by a registered nurse
with the consent of the attending physician, at the request and
upon the direction of the district attorney. The blood sample was
drawn while the defendant was unconscious or at the most semi-
conscious—hence taken without his consent. He was not arrested
on any charge until after the coroner's inquest nine days later. The

\(^7\) State v. Weltha, 228 Iowa 519, 292 N.W. 148 (1940).
\(^7\) Previous Iowa decisions reflected anything but unanimity of opinion. In State
v. Height, 117 Iowa 650, 91 N.W. 935 (1902), the court held that a physical exam-
ination of the accused to determine presence of veneral infection was an unlawful
search and seizure. A later decision, State v. Tonn, 195 Iowa 94, 191 N.W. 530
(1923), held that evidence obtained by unlawful search and seizure was admissible,
despite federal decisions to the contrary. See Ladd & Gibson, \textit{supra} note 67 at
215. In State v. Sturtevant, 96 N.H. 93, 70 A.2d 909 (1950), the Supreme Court of
New Hampshire noted that the view entertained in the \textit{Weltha} case did not prevail
in that state.
\(^7\) 274 Wis. 266, 79 N.W.2d 810 (1956). Note, 41 \textit{Marq. L. Rev.} 98 (1957).
government contended that the taking of the blood sample was not a search and seizure in the constitutional sense but merely part of a physical examination; however, the court disagreed, holding that a search and seizure and a physical examination are not necessarily mutually exclusive.\textsuperscript{73} The court recognized that a search and seizure incidental to a lawful arrest would not violate constitutional rights of the person searched, but it found that the lapse of time in this case between search and arrest was far too long to support a conclusion that this search was an incident to the arrest. The court further observed that admitting evidence in violation of the defendant's rights under the state constitution constituted a denial of due process under Wisconsin law, and that violation by the state of its own constitution would inevitably deny the defendant due process within the meaning of the fourteenth amendment.\textsuperscript{74} It is apparent that the foregoing decisions had stressed two basic factors in determining whether a search and seizure would be unlawful under the circumstances: (1) time of search in relation to arrest; and (2) presence or absence of unreasonable, abusive physical force. If little or no force is employed and the search is conducted by qualified personnel at or near the time of arrest, it is likely that judicial disfavor and rebuff will be kept at a minimum. On the other hand, if the search and seizure are made without due regard to time of arrest and elements of force are obvious, one might expect to cope with strong judicial resentment. Between these extremes of conduct, however, lies a twilight zone where predictions might well go awry.

\textsuperscript{73} "We do not understand that the constitutional provision in question forbids officers to go through one's pockets but permits them to go through his veins." 274 Wis. at 273, 79 N.W.2d at 815.

\textsuperscript{74} The recent holding of the Supreme Court of Michigan in Lebel v. Swinecky, 354 Mich. 427, 93 N.W.2d 281 (1958), deserves consideration. Defendant was removed to a hospital immediately after a motor-vehicle collision in which several persons were fatally injured. At the direction of a physician, blood was drawn from the defendant while he was unconscious and not under arrest at that time. Chemical-test evidence was admitted in the trial court, but the Supreme Court of Michigan held the evidence inadmissible as a violation of the provision of the Michigan Constitution prohibiting unreasonable search and seizure. The majority opinion stressed the fact that the blood sample was taken in violation of the defendant's right of security to his person and saw no distinction in principle between obtaining a blood sample from an unconscious person and taking such from a conscious person by force. Moreover, the court concluded that the majority opinion in Breithaupt v. Abram, 352 U.S. 433 (1957), had held that evidence against Breithaupt had been obtained in violation of the fourth amendment, and further observed that provisions of the Michigan Constitution were identical in substance with those of the fourth amendment. If the Michigan court's assumptions are correct, one would not be in a position to deny the validity of its final decision, but it is submitted that the majority opinion in 

\textit{Breithaupt} did not hold that the evidence in that case was obtained in violation of rights protected by the fourth amendment; only by strained implication can one reach such a conclusion.
C. Due Process

A third constitutional problem is whether the chemical-test procedure violates due process.\(^7\) A leading analogous Supreme Court decision is *People v. Rochin.*\(^6\) California police suspected Rochin of selling narcotics. They unlawfully broke into his room and were about to seize two capsules lying on a night-stand when Rochin thrust the capsules in his mouth. Rochin was then taken to a nearby hospital and strapped to a table while a physician forced a tube and emetic solution down his throat, causing him to disgorge the contents of his stomach. Rochin was later tried and convicted on a charge of illegally possessing morphine, and the capsules were admitted as evidence over his objection. A district court of appeal affirmed the conviction,\(^7\) and the Supreme Court of California refused to grant a re-hearing.\(^8\) However, on certiorari the Supreme Court of the United States reversed the conviction on grounds of violation of due process.\(^9\) Mr. Justice Frankfurter, writing for the majority,\(^8\) reasoned that the conviction rested on evidence which was inadmissible because it was obtained by methods "too close to the rack and the screw. . . ."\(^8\) Relying upon the "coerced confession" cases, the majority drew no distinction between forced extractions from the mind and forced extractions from the body.

After the *Rochin* decision, the due process argument was un-successfully invoked in numerous criminal cases involving the admissibility of chemical-test evidence. In *State v. Berg,\(^8\) the Supreme Court of Arizona, taking cognizance of *Rochin,* ruled that there was no violation of due process when a defendant motorist was compelled to submit to a drunkometer test. Likewise, the Supreme Court of California held that drawing blood from the arm of an unconscious person did not violate standards of due process.\(^8\)

\(^7\) A tangential problem to that of the constitutionality of chemical testing to determine whether a person is under the influence of alcohol is whether due process requires a jury trial in a prosecution in municipal court for driving while under the influence of alcohol. The Supreme Court of Minnesota recently reversed a municipal court's denial of a jury trial in such a case. State v. Hoben, 98 N.W. 2d 813 (Minn. 1959). For a detailed analysis of the reasoning in the *Hoben* case and an evaluation of its result, see 44 MINN. L. REV. — (1960).

\(^6\) See note 68 supra.


Justice Black and Douglas concurred in the result but on different grounds. They considered the admission of the evidence a violation of the privilege against self-incrimination. To reverse for this reason would require that Adamson v. California, 332 U.S. 46 (1947), be overruled.

\(^8\) See note 68 supra.

And a year later a California district court of appeal held that, despite the use of violence to compel the defendant to take an intoximeter test, results of the test were admissible in a subsequent prosecution for driving an automobile while under the influence of intoxicants. 84

Five years after Rochin, due process and chemical testing came to focus in the celebrated case of Breithaupt v. Abram. 85 Petitioner Breithaupt was seriously injured in an automobile accident in which three other persons were killed. He was taken to a hospital, and while he lay unconscious in the emergency room, the smell of liquor was detected on his breath. At the request of a state patrolman, a physician extracted a blood specimen to determine whether the petitioner was intoxicated, and evidence concerning alcoholic content of the specimen was subsequently admitted at the trial where he was convicted of involuntary manslaughter. No appeal was taken and a subsequent petition for a writ of habeas corpus was denied by the Supreme Court of New Mexico. 86 In a 6-3 decision, the Supreme Court of the United States affirmed the denial of the writ. 87 In substance, the Court held that the petitioner's conviction did not deny him the due process of law guaranteed by the fourteenth amendment.

Breithaupt attempted unsuccessfully to invoke the bar of Rochin, but the majority distinguished the case on the fact that there was nothing brutal or offensive in the taking of a blood sample when done under the protective eye of a physician. However, the Court did suggest that the indiscriminate taking of blood under different conditions or by persons not qualified to do so might be the kind of brutality proscribed by Rochin. The majority noted that blood tests have become routine and that most states either expressly authorize such tests or at least admit their results in evidence. Thus the Court reasoned that the right of inviolability of the person against such a slight intrusion was outweighed by the interest of society in scientific determination of intoxication and the tendency of such tests to deter persons from driving while under the influence of alcohol.

In dissent, Mr. Justice Douglas observed that, as he understood the court's decision, there would be a violation of due process if blood had been withdrawn from the accused after a struggle with

84. People v. Kiss, 125 Cal. App. 2d 138, 269 P.2d 924 (1954). The court indicated that test results would be excluded only where the accused was so terrorized into submission that to admit evidence as such would be a mockery and a pretense of a trial.
87. Mr. Chief Justice Warren and Justices Black and Douglas dissented. Mr. Justice Clark wrote the majority opinion.
the police. "Under our system of government," he said, "police cannot compel people to furnish evidence necessary to send them to prison." The weakness in his position is that it almost assumes that responsibility is one-sided and that the individual has only minimal obligations of citizenship. If no force whatsoever were counte-
nanced, the law-abiding citizen would, in effect, be penalized un-
fairly; the obstreperous, vocative citizen would succeed in his mission
to thwart the law at every turn. Furthermore, a prohibition of all reasonable attempts by society to compel production of evidence
is not only unwarranted but is symptomatic of a state of mind that
breeds disrespect for authority and order. One who forcefully op-
poses the law and its mission should expect a reasonable amount of
force in return.

D. Physician-Patient Privilege

The common law recognized no privilege for confidential informa-
tion imparted by a patient to a physician. However, in 1828 New
York departed from this rule when its legislature provided for a
physician-patient privilege, and since that date a majority of Ameri-
can jurisdictions have enacted similar statutes. Though the statutory
provisions are not completely uniform, generally these enactments
provide that a licensed physician shall not, without the consent of
his patient, divulge any information or any opinion with respect to
knowledge acquired in attending the patient in a professional ca-
pacity.

The problem to be examined here is: If a physician draws a blood
sample or any body fluid from the body of an inebriate, should the
physician-patient privilege preclude the physician from testifying?
Certainly, where there is no showing that the running of a chemical
test is at all necessary to enable the physician to treat or to diagnose the person, the privilege should not apply. In most cases, the record will show affirmatively that the test was performed by the physician on the request of a public officer, and medical services so donated are rarely if ever rendered in an atmosphere of personal confidence between the physician and examined person. The privilege seeks its roots in a confidential relationship, and the bond between doctor and inebriate can scarcely be labeled confidential.

A closer question may arise when the physician who is called to act in a professional capacity discovers that the subject whom he is to attend needs emergency treatment. Even assuming that he gives such emergency treatment, however, it seems that this factor alone should not be held to create a confidential relationship which bars use of the test results, for the chemical-testing situation is a matter entirely disconnected from the treatment of the patient.

Contrary to the trend of judicial sentiment, the Supreme Court of Indiana has lately expanded the scope of the privilege, despite the fact that the court indicated that the statute in question should be strictly construed. While the defendant was lying unconscious in a hospital, a physician, who at the time was "on call," took a blood sample to determine the blood type preparatory to giving a transfusion. A police officer who was present at the time requested the physician to preserve a sample of the blood for the purpose of making a chemical test. The physician complied with the officer's request. Holding that the physician should not be permitted to testify concerning the blood sample, the court ruled that this was clearly information obtained by the physician "in the sick room." The court placed considerable reliance upon a previous Indiana decision which had prohibited the testimony of an emergency-ward physician with respect to the "intoxicated condition" of a patient admitted for treatment. Thus, if a physician could not testify from observation whether or not in his opinion a patient was intoxicated, he should not be qualified to testify concerning a blood sample drawn without the patient's consent. From this vantage point, it appears that the Indiana court's very logical argument is based upon an inaccurate and flimsy premise.

92. Hanlon v. Woodhouse, 113 Colo. 504, 160 P.2d 998 (1945); Lebel v. Swincicki, 354 Mich. 427, 93 N.W.2d 281 (1958). "It is manifestly clear from the reasons upon which the privilege is based and from the decided cases that where no treatment is made or contemplated, there exists no relationship between the doctor and patient that will support the privilege." Ladd & Gibson, supra note 67, at 254.
96. A decision by the Supreme Court of Kansas has reached a common-sense re-
III. IMPLIED CONSENT STATUTES

Disturbed by the growing menace of the intoxicated driver, many conscientious persons have advocated enactment of legislation to make chemical tests compulsory. Others have urged that each driver should submit to chemical-testing procedures by signing a written waiver at the time he makes application for a license. However, neither proposal is practical. A compulsory chemical-test law would be doomed to failure in those jurisdictions where the judiciary chose to decree that the privilege against self-incrimination applied to a compulsory taking of physical evidence. And the second proposal would not apply to unlicensed drivers and nonresident motorists unless every state adopted such a provision and made the waiver broad enough to cover submission to tests in other states.

A. Nature of the Statutes

In 1953 New York arrived at a happy solution in enacting the first statute in this country requiring drivers to submit to a chemical test for intoxication. Nationwide reaction has been generally favorable, and the Council of State Governments has recommended its adoption by other states.

The nucleus of the New York law declares that any person operating a motor vehicle in the state shall be deemed to have given his consent to a chemical test whenever the police suspect him of driving while intoxicated. The mere operation of a motor vehicle within the state, whether by a person licensed or unlicensed, resi-
dent or nonresident, constitutes consent to be tested. Implying consent in advance, through the mere operation of a motor vehicle, avoids the difficult consent problem, for even if the motorist is rendered insensible by consumption of intoxicants or is unconscious or dazed as a result of an accident or other mishap, he has consented in advance to submission to a chemical-test procedure prescribed by law. Without doubt some will assert that the test should not be administered if the subject involved is not capable of giving intelligent consent, but this point of view can only thwart the purpose of the statute. It seems quite obvious that the legislatures of the various states that have enacted consent statutes have intended that tests should be administered in all cases where refusals were not evident. This interpretation of the law in no way encourages violence, and judging from the opinion of the Supreme Court of the United States in the Breithaupt case, no overt violation of due process is contemplated. In short, the statutory provision with respect to automatic consent serves its most useful function in those extreme situations where, because of injury or gross intoxication, actual consent is difficult, if not impossible, to obtain.

Paradoxically, however, the New York law also provides that, although the driver has constructively consented to submit to a chemical test, he may refuse to take the test despite his imputed promise to consent. If he refuses to submit and therefore does not fulfill his implied agreement, he automatically forfeits the privilege of using the highways of the state. In effect, therefore, he loses his driver's license or nonresident operating privilege. This curious juxtaposition of mandatory consent with a freedom of refusal provides further insurance against the unseemly struggles that are so likely to arise when police and citizen fail to appreciate the import of a common purpose.

B. Constitutionality of the Statutes

In Schutt v. Mac Duff, the first case challenging the constitutionality of the New York statute, an action was brought to annul the revocation of petitioner's driver's license. The license was revoked by the Commissioner of Motor Vehicles for the alleged refusal of the petitioner to submit to a blood test as demanded by a police officer following an arrest for driving while intoxicated. Although it was found unconstitutional on other grounds, the validity of the statute was upheld against contentions that it violated the privilege against self-incrimination, the court holding that New York decisions have limited the effect of the state constitutional provision to

100. The Idaho, Kansas, and Utah statutes likewise permit the motorist the privilege of refusal. For citations, see note 98 supra.
The court also rejected petitioner's claim that the implied consent statute encroached upon the constitutional guarantee against unreasonable search and seizure, pointing to the fact that the petitioner, who was under legal arrest, could be searched for evidences of the crime for which he was arrested. Without hesitation, the court rejected a claim that the statute operated to deprive the petitioner of equal protection of the laws guaranteed by the federal and state constitutions, stating that the law affected alike all persons similarly situated, that is, persons licensed to operate motor vehicles upon the highways of the state.

The court did, however, hold that the statute violated due process, since it did not provide drivers with an opportunity to be heard on all questions of law or fact. Conscientious approval could not be given to a statute authorizing final revocation of a driver's license by loose and informal procedure which left every motorist in the state at the mercy of the commissioner and his assistants. In effect, the court ruled that the statute, as written, provided for an arbitrary and summary infringement upon the qualified rights of a free people. It also held the statute unconstitutional in that it lacked a provision limiting its application to cases where there has been a lawful arrest. Objections, as outlined, were met by legislative amendment permitting temporary suspension of a license without a hearing but requiring a hearing prior to final revocation, and further requiring that the subject be placed under arrest prior to being requested to submit to a chemical test.

102. Id. at 122-23. The opinion indicated that the constitutional privilege would not bar the use of chemical-test results, even though body fluids were taken while defendant was in a confused or unconscious state.


104. If a person, having been placed under arrest, and having thereafter been requested to submit to a chemical test, refuses to submit to such test, the test shall not be given. In such event, license or permit to drive shall be revoked by a proper licensing authority.

105. Subsequent legislation in Idaho, Kansas, and Utah has included provision for lawful arrest. See Idaho Code Ann., § 49-352 (Supp. 1955); Kan. Gen. Stat. Ann., § 8-1001 (Supp. 1957); Utah Code Ann., § 41-6-44.10 (Supp. 1957). If a person, having been placed under arrest, and having thereafter been requested to submit to a chemical test, refuses to submit to such test, the test shall not be given. In such event, license or permit to drive shall be revoked by a proper licensing authority.

106. N.Y. Laws 1954, ch. 320, effective March 30, 1954, amending N.Y. Vehicle & Traffic Law, § 71-a(1). Statutory provisions as amended were held not to violate due process on any theory. Ballou v. Kelly, 12 Misc. 2d 25, 176 N.Y.S.2d 1005 (Sup. Ct. 1958). The fact that the statute does not require a warning by police to the effect that refusal to submit may result in revocation of one's driver's
C. Comment Upon, or Admission Into Evidence of, Refusal to Submit to Chemical Testing

When a motorist refuses to submit to a chemical test, may the fact of refusal be admitted into evidence or be commented upon at the trial by the prosecution? The decisions are not in agreement. For example, California, Iowa, Ohio, South Carolina, and Virginia have permitted comment, noting that there has been an increasing tendency among the courts of many jurisdictions to extend the scope of self-incrimination provisions to unwarranted lengths. However, none of these cases involved interpretation of a statute granting an accused the right of refusal to submit to a chemical test. On the other hand, New York has held that evidence of the accused's refusal to submit is inadmissible. Furthermore, statutes of several states specifically provide that evidence of refusal to submit to, or of failure to take, the test shall not be admissible.

In State v. Severson, the Supreme Court of North Dakota held that a statute providing that the accused shall not be required to submit to a chemical test without his consent implied that evidence of the results of such test could not be admitted unless the accused consented to the test. And an appellate division of the Supreme Court of New York has noted that the New York courts have consistently held that under the self-incrimination laws the receipt of evidence in a criminal trial concerning a defendant's complete silence or refusal to answer is reversible error. Thus, the fact that a defendant did what he had an absolute right to do could not be used to create an unfavorable inference against him.


110. 75 N.W.2d 316 (N.D. 1956). The North Dakota court cited no supporting authority.


Recently, however, the Supreme Court of Idaho emphatically declared that evidence of refusal to submit to a blood test was competent and admissible.\textsuperscript{113} Like any other act or statement voluntarily made, it was competent for the jury to consider and weigh the fact of refusal with the other evidence, and to draw from it whatever inference as to guilt or innocence might be justified under the circumstances. Comparing the North Dakota and Idaho statutes, the court pointed out that under Idaho law, by operating a motor vehicle within the state, the defendant is deemed to have given his consent to a chemical test.\textsuperscript{114} The court also took notice of an Idaho statute which prohibited comment when a defendant in a criminal action neglected or refused to testify, but held that statute inapplicable in the instant case, because it applied to a defendant only as a witness and guarded against testimonial compulsion, not against real evidence.\textsuperscript{115}

Despite the fact that modern legislation has granted the arrested motorist the privilege of refusal, it does not necessarily follow that comment upon refusal will work undue hardship when the motorist stands accused at trial. Furthermore, if it be admitted that the privilege of refusal stems from a legislative effort to eliminate unreasonable force in terms of police action, the accused has received all benefits due him when he is granted merely the right of refusal. For the sake of peace and order, the state has surrendered evidence of significant value, and beneficence at the sacrifice of effective law enforcement should not be compounded by denying the state the privilege of comment. Far from being unduly prejudicial to the defendant's cause, any diminution in value of the privilege of refusal by allowing comment will be comparatively slight. Taking account of recent legislative efforts aimed at safeguarding individual liberties and discouraging coercive police measures, it would be most impractical to insist that successful prosecution be curtailed by an unnecessary and unrealistic prohibition of comment.

\textsuperscript{113} State v. Bock, 80 Idaho 296, 328 P.2d 1065 (1958).
\textsuperscript{114} Idaho Code Ann., § 49-353 (Supp. 1955).
\textsuperscript{115} Idaho Code Ann., § 19-3003 (1947).