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BLOOD TESTS AND DISPUTED PARENTAGE[†]

By LOWELL R. BOWEN*

In a day when science is such an integral part of every-day life, it is only natural that the courts should come to depend more and more on the tools for ascertaining truth which it provides. Of these tools, one of the most accurate and most useful is the blood test to prove non-paternity, a test of special significance because it introduces objective determinations of fact into an area of human relations where men are particularly susceptible to being governed by emotion rather than reason and logic.

DEVELOPMENT OF THE TESTS

It has long been assumed that similarity of physical characteristics between a child and an alleged parent is evidence of paternity,¹ and the scientific basis for this assumption was laid in the late 19th century by an Austrian monk, Gregor Johann Mendel, whose work laid the foundation for the modern science of genetics.² By the laws of genetics, in the absence of mutation,³ an offspring cannot have any characteristic not present in either alleged parent; if the child possesses such a characteristic at least one of

[†] This article is based on a paper originally prepared for Professor L. Whiting Farinholt's Seminar on Medico-Legal Problems at the University of Maryland School of Law.

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¹ For an early American case, see Gilmanton v. Ham, 38 N. H. 108, 113 (1859):

[&]quot;. . . we think, under the well established physiological law that like begets like, and that generally there is a resemblance, more or less strong and striking, between the parent and his child, it was a fair matter of argument before the jury by the counsel on both sides, whether or not there had been anything in the complexion, appearance, and features of the child which the witness had produced and identified before them, tending to indicate its other percent."

before them, tending to indicate its other parent."

*Mendel's report of his experiments has been translated as "Experiments in Plant Hybridization", Harvard University Press (1948). Though his report was published in 1866, the value of his work was not generally recognized until 1900.

[&]quot;Theoretically, mutations [in blood groups] could give rise to exceptions to the theory once in about 50,000 to 100,000 cases. However, this rare possibility does not interfere with the medicolegal application of the tests, because when blood grouping tests are accurately performed there is hardly any other evidence that can approach in reliability the conclusions based on such blood tests."

bility the conclusions based on such blood tests."

Medicolegal Application of Blood Grouping Tests, 149 J. A. M. A. 699, 702 (1952). There has been only one definitely established case — the Haselhorst Case reported by Lauer and Haselhorst in 1928. A woman of group A²B blood had a child of group O blood. However, the child had other abnormalities including idiocy and congenital malformations. Andresen, The Human Blood Groups (1952) 45.

them is not in fact his parent. There are two complicating factors, however, which make general physical appearance unreliable. First, certain genes, the unit by which physical characteristics are inherited, are dominant over others, determining the offspring's observable characteristics or phenotype, while others are recessive, determining the genotype. The characteristic determined by a recessive gene does not appear in an individual having the dominant gene but may be transmitted to and appear in an offspring receiving a recessive gene from the other parent. Second, many physical characteristics are determined by more than one pair of genes, many do not develop until some years after birth, and many are influenced by environmental conditions.⁴

"A character that is to give unequivocal evidence concerning parentage must be simply inherited, and its mode of inheritance must be known with certainty; it must be adequately developed at birth or soon thereafter; it must retain its character throughout life, unobscured by climate, disease, age or by any other environmental or genetical agency. If the character is to be used to settle a dispute it must be objective."

Such a characteristic was discovered by Karl Landsteiner in 1900. Using samples from laboratory technicians, Landsteiner discovered that human blood can be divided into three, later increased to four, groups, which are now identified by the letters A, B, AB, and O. A few years later, Epstein and Ottenberg suggested that these groups were inherited, and this was proved by Dungern and Hirzfield in 1910, the exact method being determined by Bernstein in 1924 and 1925. This was only the beginning; today more than thirty different groups have been identified in human blood.

Identification of blood groups is made possible by the fact that the red blood cells possess certain substances,

^{*}RACE, AND SANGER, BLOOD GROUPS IN MAN (2d ed. 1954) 9:

"A main difficulty in studying inheritance in man is the shortage of normal physiological characters which are inherited in a sufficiently simple way for us to follow. Practically all normal characters are complex in their inheritance and depend on many genes, all of which, individually, behave in a simple Mendelian manner but which, acting together, obscure their individual tracks."

"Ibid, 310.

^{*}Wiener, Rh-He Bloop Types (1954) 10. Landsteiner was subsequently awarded the Nobel Prize in Medicine in 1930.

Medicolegal Applications of Blood Grouping Tests — A Tentative Supplementary Report, 161 J. A. M. A. 233 (1956).

agglutinogens, present on the surface of the cells and determined by the laws of heredity, which, in the presence of other substances called agglutinins, cause the cells to stick together in clumps, i.e., agglutinate. Thus group A cells are agglutinated by the presence of anti-A agglutinin and B cells are agglutinated by anti-B. Group AB cells are agglutinated by both anti-A and anti-B and group O cells by neither. Certain agglutinins occur naturally, e.g., anti-B is a natural constituent of the serum of group A blood and vice versa. Others do not, and for these groups the testing serums must be produced artificially by injecting blood of a known type into another individual or certain animals which produce the agglutinin in reaction to the presence of the foreign cells.

ACCEPTANCE BY THE COURTS

While the science of serology has grown rapidly in the half century since Landsteiner's original discovery, the acceptance of blood test evidence by the courts has lagged behind the development of scientific technique. The question of ordering such tests was presented for the first time to an American court of last resort in the South Dakota case of State v. Damm. 10 The defendant's minor foster daughter had given birth to a child, and he was tried and convicted of second degree rape. His motion for new trial was denied, and he appealed, alleging as error, inter alia, the refusal by the court of his request to have the parties submit to a blood test. The Supreme Court of South Dakota held that the trial judge did not abuse his discretion in refusing the request. The court based its holding upon the proposition that the record did not sufficiently show that medical science had agreed on the transmissibility of blood groups to the extent that an exclusion based on them could be accepted as a positively established scientific fact.

"In other words, we think it insufficiently appears that the validity of the proposed test meets with such generally accepted recognition as a scientific fact among medical men as to say that it constituted an abuse of discretion for a court of justice to refuse to take cog-

⁸ Supra, n. 6, ps. 2, 3. "An agglutinogen may be defined as a substance present on the surface of the red blood cells that is identified by certain agglutination reactions with diagnostic reagents." Medicolegal Applications of Blood Grouping Tests — A Tentative Supplementary Report (ibid).

⁶ E.g., the Rh groups are named after the Rhesus monkey the blood of which, injected into rabbits, was used to produce the first Rh testing serums. Supra, n. 6, ps. 14, 15.

²⁶ 62 S. D. 123, 252 N. W. 7, 104 A. L. R. 430 (1933).

nizance thereof, as would undoubtedly be the case if a court today should refuse to take cognizance of the accepted scientific fact that the finger prints of no two individuals are in all respects identical."¹¹

On rehearing on this particular point three years later, the court declared that it had not said that blood tests (by which was meant the A-B-O and M-N systems) were unreliable, but that:

"... it is our considered opinion that the reliability of the blood test is definitely, and indeed unanimously, established as a matter of expert scientific opinion entertained by authorities in the field, and we think the time has undoubtedly arrived when the results of such tests, made by competent persons and properly offered in evidence, should be deemed admissible in a court of justice whenever paternity is in issue.¹²

Having thus taken the subject in hand, the court proceeded to analyze the constitutionality of an order that such tests be made. It noted that New York and Wisconsin had enacted statutes authorizing blood tests and concluded that a court order for such a test was both constitutional and within the inherent power of the court without enabling legislation.

"We perceive no valid reason why courts of record may not require of any person within their jurisdiction the furnishing of a few drops of blood for test purposes when, in the opinion of the court, so to do will or may materially assist in administering justice in a pending matter."¹⁸

In spite of the court's concessions to scientific progress, the judgment was reaffirmed on the ground that at the time of the trial (1931) the state of the science was not so far advanced and that the application for testing was not timely.

General acceptance of the tests as admissible evidence followed, either by court initiative or legislative enactment, until in 1945 the Maryland Court of Appeals could say with authority:

"Blood tests are now accepted everywhere, scientifically, as accurate, and the courts and legislatures

Ibid, 12.

²⁸ State v. Damm, 64 S. D. 309, 266 N. W. 667, 668, 104 A. L. R. 441 (1936).
²⁶ Ibid. 670.

have generally followed the same view. The trial courts in this State have so accepted them for a number of years, and the Legislature in 1941, by Chapter 307 of the Acts of that year, specifically provided that such tests could be used in bastardy proceedings."¹⁴

However, the equally vital question of the weight to be given to blood test evidence has not been settled in Maryland, and the results in some of the jurisdictions which have passed on the question are, to say the least, unfortunate.

BASTARDY PROCEEDINGS

Perhaps the most important legal use of blood tests in Maryland is in actions under the Bastardy and Fornication Statute, which provides that whenever the defendant in a bastardy proceeding denies that he is the father he may petition the court to order the mother, child, and himself to submit to blood tests. The results of the tests are to be received in evidence, but only if definite exclusion is established. The statute requires that the tests be made at laboratories located in Maryland and selected by the judges of the county circuit courts and the criminal courts of Baltimore City. The present procedure in Baltimore City is for the State's Attorney to refer the parties, the mother. child, and putative father, to the University of Maryland Hospital Serological Laboratory. Appointments are made for all three at the same hour to simplify identification, since the prosecutrix can identify the defendant and prevent the sending of a substitute. Exceptions are of course necessary when one of the parties cannot be present. In such a case, the sample is taken by a local physician or technician, properly marked for identification, and for-

¹⁴ Shanks v. State, 185 Md. 437, 440, 45 A. 2d 85 (1945). Shanks was convicted of rape and appealed, alleging that evidence of blood tests made on stains on his clothing and at the scene of the crime and on samples of the blood of the victim and of a girl with whom he alleged to have fought was improperly admitted. The results indicated that the blood on his clothing could have been that of the victim but could not have been that of the girl as he claimed. The Court of Appeals held the evidence admissible and stated at page 439:

[&]quot;Scientific tests of human blood are now almost universally used in appropriate cases and the results are accepted as evidence where they are found to be admissible for the purpose offered in a particular legal proceeding."

The statute cited in the principal quotation is now 1 Md. Code (1957), Art. 12, Sec. 20.

¹⁵ 1 Md. Code (1957), Art. 12, §20.

warded with an affidavit of the person taking it. Samples of five cubic centimeters are taken by venipuncture from the adults and a few drops by finger or heel puncture from the infant, both being simple and relatively painless operations.

The actual group determinations are performed in the Baltimore Rh Laboratory, a semi-public health institute sponsored by the Medical, Obstetrical and Gynecological Society of Maryland. Tests are made for the A-B-O, M-N, and eight Rh groups. The laboratory is also equipped to test for Kell, Duffy, and S, but these are not currently recommended for legal work and are not used. Two separate series of tests are run on each sample, and if exclusion is shown, the results are rechecked. A letter is then prepared reporting and analyzing the results, stating whether or not there is exclusion, and forwarded to the State's Attorney.

The Maryland statute provides that the reports "shall be accepted as prima facie evidence of the results of such tests," and that when the results are admitted in evidence, ". . . the laboratory technicians who made them shall be subject to cross examination by both parties." In practice, however, they are seldom called, the custom apparently being for the prosecution to stipulate that if the technician had been called he would have testified to the performance of the tests and to the results obtained. This is probably the wisest procedure as a matter of trial tactics, since the testimony of the technician would undoubtedly add to the weight of the evidence in the minds of the court or jury. As pointed out above, the statute specifically pro-

[&]quot;Medicolegal Application of Blood Grouping Tests, 149 J. A. M. A. 699 (1952); Same. A Tentative Supplementary Report, 161 J. A. M. A. 233 (1956); ANDRESEN, THE HUMAN BLOOD GROUPS (1952). Exclusion based on the Rh groups alone was held in the absence of contradictory evidence sufficient to require a finding of non-paternity in Saks v. Saks, 189 Misc. 667, 71 N. Y. S. 2d 797 (1947). For tables of exclusion see Wiener and Wexler, Exclusion of Parentage by Rh-Hr Blood Tests, 3 Jour. of Forensic Medicine 67 (1956). In regard to the S group, it has been held in a New Hampshire annulment case, Groulx v. Groulx, 98 N. H. 481, 103 A. 2d 188 (1954), where exclusion was based on S alone, "... that the blood grouping tests in this case were entitled to evidentiary weight even though they do not have the benefit of the full genetic data that is available in the more common blood groups such as A-B-O, M-N, and Rh-Hr." The A-B-O, M-N, and Rh-Hr groups give a better than 50% chance of exclusion, to which all the other newer groups would add only about 5 to 10%. Weiner, Newer Blood Groups and Their Medicolegal Aspects, 17 Post Graduate Medicine A34 (1955). For a detailed table of the various possible matings in the A-B-O groups, see 1 WIGMORE, EVIDENCE (3rd ed., 1940), Sec. 165b.

"Bupra, n. 15, §20.

vides that the results are admissible only where paternity is excluded.

One obvious weakness of the Maryland statute is that it does not provide that the tests shall be compulsory upon the mother and child. The statute says that the court "shall order" the parties to submit, and if this were the only provision, the court could presumably enforce the order like any other by contempt proceedings. However, the statute also provides that if the prosecutrix refuses to submit herself or the child, this fact may be commented upon by the defense, which seems to imply that no further sanctions will be used. If the reason for omitting sanctions from the statute was a desire to avoid any question of unconstitutionality, it would appear to be an unnecessary precaution. There is no question of self-incrimination of the prosecutrix or her child, and certainly the iudicial power of the state extends to everyone present within it, unless specially privileged, to compel them to appear and testify. The taking of a few drops of blood is no more of an unconstitutional invasion of private rights than the taking of photographs or finger prints, and is less messy than the latter.

An alternative method of enforcing compliance would be to provide for dismissal of the action upon failure of the prosecutrix to comply with the blood test order. The objection that this permits a private party to obstruct justice by defeating a criminal proceeding ignores the purpose and substance of the statute, which, while criminal in form and procedure, in effect forces the responsible male to support his illegitimate offspring and so takes the burden off the state. The question of whether a Maryland court could, within its inherent power to enforce its orders, compel the prosecutrix and her child to submit has not been before the Court of Appeals and if presented might be upheld despite the statutory inference, but the question can more properly be settled by the legislature.

The Maryland statute does not indicate what weight should be given to the results of blood tests when they are admitted in evidence nor has the Court of Appeals ruled

¹⁸ In Fiege v. Boehm, 210 Md. 352, 359, 123 A. 2d 316 (1956), involving a suit on a contract to support in consideration of a promise to forbear criminal presecution, the Court of Appeals said:

criminal prosecution, the Court of Appeals said:

"Prosecutions for bastardy are treated in Maryland as criminal proceedings, but they are actually civil in purpose. ... While the prime object of the Maryland Bastardy Act is to protect the public from the burden of maintaining illegitimate children, it is so distinctly in the interest of the mother that she becomes the beneficiary of it."

upon the question, ¹⁸ and the cases from other jurisdictions are in conflict. Two Maine cases, however, indicate the probable and certainly the desirable trend. *Jordan v. Davis*²⁰ was a bastardy action under a statute which, like Maryland's, authorized the tests but assigned no weight to be given to the results. The court refused to reverse a jury finding of paternity where there was evidence of intercourse with the defendant but no other person, even though the tests excluded the defendant as the father. The tests were made by a qualified expert, and there was no mention in the opinion of any evidence tending to impeach the testing procedure. The court stated:

"We are not disposed to close our minds to conclusions which science tells us are established. Nor do we propose to lay down as a rule of law that the triers of fact may reject what science says is true, . . ."²¹

But they proceeded to hold:

"Believing as we do that the jury could in considering all the testimony have rejected the accuracy of the blood grouping tests in this instance, we cannot say that their findings is [sic] manifestly wrong."²²

One year later, in *Jordan v. Mace*, ²³ the court was again faced with the same question. In this case, however, there was ample affirmative evidence of the care taken in testing the samples. After reciting the precautions taken, the court commented:

"What further safeguards could reasonably have been taken to protect the integrity of the tests? If the jury may disregard the fact of non-paternity shown here so clearly by men trained and skilled in science, the purpose and intent of the Legislature, that the light of science be brought to bear upon such a case as this, are given no practical effect.

¹⁹ There is dictum in the Shanks case, supra, n. 14, 449, which indicates that the Court of Appeals may be inclined to give conclusive weight to blood tests in paternity cases. The court commented that in bastardy prosecutions "... the non-scientific evidence is often quite unreliable and scientific evidence may be conclusive as to non-paternity."

^{30 143} Me. 185, 57 A. 2d 209 (1948).

²¹ Ibid, 210. ²² Ibid, 211. Accord, Pomaineville v. Bicknell, 118 Vt. 328, 109 A. 2d 342 (1954). These cases emphasize the importance of strict security for the samples and positive proof of careful testing by qualified technicians, particularly in a case of first impression.

^{22 144} Me. 351, 69 A. 2d 670 (1949).

"Jordan v. Davis, supra, is not authority for the proposition that a jury may give such weight as it may desire to biological law. Such a law goes beyond the opinion of an expert. The jury has the duty to determine if the conditions existed which made the biological law operative. That is to say, were the tests properly made? If so made, the exclusion of the respondent as father of one child follows irresistibly."²⁴

The court also observed that if the jury's finding meant that the tests were inaccurate, it must have been based on "mere conjecture or understandable sympathy for the complainant and prejudice against the respondent," for it was unsupported by the evidence in the record.²⁵

It is this "understandable sympathy for the complainant and prejudice against the respondent" that makes it essential, to prevent the gross miscarriages of justice typified by the Davis case, that the results of the tests, when not attacked for error in the testing procedure or lack of qualification in the expert, be given conclusive effect. Apparently most juries, as in the Davis case, and some judges, treat sexual intercourse with the prosecutrix as synonymous with procreation of her child, with the deplorable result that one who is no more the father than they are is saddled with the child's support.²⁶ The cases reflect a

[&]quot;Ibid, 672.

"Ibid, 673. To the same effect, Commissioner of Welfare v. Costonie, 277 App. Div. 90, 97 N. Y. S. 2d 804 (1950). In Fowler v. Rizzuto, 121 N. Y. S. 2d 666, 667 (1953) the Court of Special Sessions of New York summarized the Costonie decision as holding that ". . . a blood test exclusion is conclusive in a paternity case, unless the integrity or expertness of the serologist is successfully attacked." Accord, Clark v. Rysedorph, 281 App. Div. 121, 118 N. Y. S. 2d 103 (1952). Note United States v. Shaughnessy, 115 F. Supp. 302 (S. D. N. Y., 1953), where petitioners, claiming citizenship through their alleged father, were refused admission by the immigration authorities on the ground that blood tests proved non-paternity. The results of the tests were not consistent and were in poor form. On these facts the District Court held that it was a denial of due process to deny petitioners opportunity to test the accuracy of the blood grouping tests by examination into the qualification of the testers and into the procedures employed.

²⁰ E.g., Commonwealth v. Hunscik, 182 Pa. Super. 639, 128 A. 2d 169 (1956). The prosecutrix testified that the defendant had intercourse with her several times including during the period of conception and that she did not have intercourse with any other man during that period. The defendant introduced the results of blood tests performed by a well-qualified expert which excluded him as the father. His motion for a directed verdict was denied and the jury returned a verdict of guilty. On appeal, the Superior Court, one judge dissenting, held that since the statute providing for the tests did not make the tests conclusive, the failure of the trial judge did not constitute error. The Court then continued (171):

[&]quot;... a new trial should be granted in the interest of justice. In this connection we note that the testimony of the prosecutrix was not en-

willingness to penalize indirectly the act of fornication which, regardless of the religious or moral view of the fact finder as to its propriety, is not a crime in Maryland. The ancient witticism from the law of negotiable instruments that if the original maker cannot be found, the subsequent indorser will be held responsible often becomes a reality.

Until the Court of Appeals or the Legislature gives the test results conclusive effect, the ridiculous results which have occasionally occurred in other jurisdictions, such as the notorious Charlie Chaplin case in California.27 could happen in Maryland.

ADULTERINE BASTARDY

While under the Maryland statute blood tests are available only to the defendant to prove exclusion, there is one class of cases where such tests may be useful to the prosecution: adulterine bastardy. If the prosecutrix was married at the time of conception or the time of birth of the child, the child is presumed to be the legitimate offspring of the marriage.²⁸ This is one of the oldest, strongest, and most salutary presumptions of the common law. Where the child is in fact a bastard, in order for a bastardy proceeding against the natural father to succeed it is necessary that this presumption be rebutted, and to do this, clear and convincing proof is required: generally that the husband had no access to his wife during the period of conception, or that he was impotent, both of which are often difficult to prove. In certain cases, it is possible by blood test evidence to establish that the husband is not the father. The problem is whether the evidence is admissible and if

tirely satisfactory. This circumstance is not without significance in the light of the testimony of appellant's medical witness." the light of the testimony of appellant's medical witness."

Even the accused may be a victim of this reasoning. Sussman and Schatkin, in Blood Grouping Tests in Undisputed Paternity Proceedings, 164 J. A. M. A. 249, 250 (1957) point out that in 67 cases where the defendants failed to contest the proceedings, subsequent tests to which the parties voluntarily submitted excluded 9% of the accused men as fathers. Since the tests prove exclusion in only half of the cases in which the defendant is not actually the father, a probable 18% of the 67 admitting paternity were not in fact responsible.

Theory v. Chaplin, 74 Cal. App. 2d 652, 169 P. 2d 442 (1946). Although the case received notoriety because of the defendant's fame as an actor, the court was merely following the California Supreme Court's holding in Arais v. Kalensnikoff, 10 Cal. 2d 428, 74 P. 2d 1043 (1937). The situation was complicated by a California statute (CAL Code Civ. Proc. (1953) \$1978) which provided that "no evidence is by law made conclusive or unanswerable, unless so declared by this code."

28 Clark v. State, 208 Md. 316, 118 A. 2d 366 (1955), noted 16 Md. L. Rev. 336 (1956). As the note indicates, an exception has sometimes been

made where pregnancy at the time of marriage was concealed from the husband.

so whether it is sufficient to rebut the presumption of legitimacy.

In 1777 Lord Mansfield handed down as an adjunct of the presumption of legitimacy the rule which bears his name.29 This rule, while allowing the bastardizing of otherwise legitimate issue by outside testimony, for some reason of "decency and morality", forbids the spouses, who should know most about the matter, to testify to any fact indicating illegitimacy until non-access has been established by outside evidence, and then allows them to testify as to any fact other than non-access. Even if not greatly respected, the rule appears to be in force in Maryland today.³⁰ Thus. if the blood tests are regarded as testimony by the spouses, and the Lord Mansfield Rule is strictly applied, the evidence might be excluded unless the presumption of legitimacy has been rebutted by other evidence. There are two reasons, however, why the rule should not apply. First, the tests are not the type of evidence to which the rule was intended to apply, being objective and not subject to fabrication by the parties. Second, the testimony is not that of the parties but that of the expert witness who performed the tests. The latter reason is in line with the reasoning in Shanks v. State³¹ which permitted the introduction into evidence in a criminal prosecution of the results of tests made on blood found on the clothing of the defendant. In rebuttal to the argument that the defendant was being forced to give evidence against himself, the court noted, quoting from an Oklahoma case, that there is a difference between experiments which the defendant is compelled to perform in court and those performed out of court as to which another testifies in court. The court said:

"'The difference is this, * * * that when such comparisons and experiments are made outside of Court, the evidence thereto falls from the lips of witnesses other than the defendant. The production of such evidence, therefore, and the testimony thereto, is not that of the defendant, but of other witnesses, . . .'"³²

If this reasoning is applied to blood tests in bastardy proceedings, the testimony would be clearly admissible under the Lord Mansfield Rule.

²⁹ Goodright v. Moss, 2 Cowp. 591, 98 Eng. Rep. 1257 (1777). For a discussion of the relation of the Lord Mansfield Rule and the presumption of legitimacy in Maryland, see *The "Lord Mansfield Rule" and the Presumption of Legitimacy*, 16 Md. L. Rev. 336 (1956).

Supra, n. 8.
 185 Md. 437, 45 A. 2d 85 (1945).

²⁰ Ibid. 444.

Assuming blood test evidence to be admissible, it should be sufficient to rebut the presumption of legitimacy, whether or not the court gives it conclusive effect, since Maryland only requires clear and convincing proof.³³ A case from another jurisdiction very closely on point is State v. Clark, decided by the Supreme Court of Ohio in 1944.34 The prosecutrix had married in 1941 and separated from her husband in April or May of 1942. In May she instituted divorce proceedings and secured a decree in November. In January of 1943 she filed a complaint against Clark and in March gave birth to a full term child, apparently conceived in wedlock. Blood tests performed on the mother, child, and the ex-husband excluded the possibility of his paternity, and a proper foundation having been laid, were admitted into evidence without objection. The trial judge charged the jury that before a child can be adjudged that of any other than the husband, the proof must be "'clear, certain and conclusive either that the husband had no powers of procreation, or the circumstances were such as to render it impossible that he could be the father of the child." The jury found the defendant guilty. On appeal, an intermediate court reversed, but the Supreme Court of Ohio reinstated the trial court's judgment, holding that clear and convincing evidence that there were no sexual relations between the husband and wife during the period of conception was sufficient. While the court did not give conclusive weight to the blood test evidence and did not have to rule on its admissibility, there having been no objection at the trial, it did make the following significant comment:

"In the absence of statutory approval, we see no good reason why plaintiff in the instant proceeding should have been denied the right, even had the de-

In Hale v. State, 175 Md. 319, 321, 2 A. 2d 17 (1938), noted 3 Md. L. Rev. 79 (1938), an adulterine bastardy case, the Court of Appeals held that, since the prosecutrix was married at the time of the conception and birth of the child, the presumption of legitimacy arose, placing upon the State ". . . the exacting burden to show to the contrary by clear, satisfactory and convincing evidence. . ."

144 Ohio St. 305, 58 N. E. 2d 773 (1944).

as Ibid. 774-775. Note also Cortese v. Cortese, 10 N. J. Super. 152, 76 A. 2d 717 (1950), a civil action for support of a child conceived before but born during marriage. In reply to plaintiff's objection to the tests that they would not be sufficient to overcome the presumption of legitimacy, the court simply noted that the presumption is rebuttable. The court refused to rule on whether the results are conclusive or merely a form of expert testimony, but cited Schatkin, Disputed Paternity Proceedings (2nd ed. 1947) 184, for the statement that there is no longer any controversy as to the reliability, dependability even infallibility — of the tests.

fendant objected, to introduce the testimony as to the findings and result of the blood-grouping test. She was charging another than her former husband with the paternity of her child, conceived while she was still married, and it was essential as a part of her case to exclude her former husband as the father. Although the testimony of the expert who made the blood-grouping test was not conclusive as to the non-paternity of [her former husband], it was admissible for whatever weight it might be given in establishing that fact."³⁶

The Maryland Court of Appeals has not yet been called upon to pass on the question, but it was recently presented to the Criminal Court of Baltimore in *State v. Cook.*³⁷ The court briefly reviewed the background of blood testing and held that the results of the blood tests on the husband, wife, and child were admissible and were legally sufficient proof to rebut the presumption of legitimacy. However, the Supreme Bench without opinion granted the defendant's motion for new trial, apparently on the question of the admissibility of the blood test evidence, and the State declined to prosecute further.

DIVORCE AND ANNULMENT

If the blood test evidence is admissible in adulterine bastardy prosecutions to exclude the husband as father of the child, it should be admissible for the same reasons in an action for divorce on grounds of adultery or annulment on grounds of concealed pregnancy at the time of marriage, and the conclusions on the presumption of legitimacy and the Lord Mansfield Rule reached above apply here with equal force. However, there is one new element — the problem of getting the wife to submit to the tests. This is not true in the ordinary bastardy proceeding, where the authority is given by statute, subject to the limitations discussed above, or in adulterine bastardy, where the wife comes in voluntarily to prosecute and the husband (usually then divorced, as in the Cook case) has nothing to lose by submitting to the tests. However, where a husband seeks a divorce on grounds of adultery or an annulment on grounds that he married the woman on the false representation that she was with child by him, and the wife resists the action, she has everything to lose and nothing

²⁶ Ibid, 777.

⁸⁷ Daily Record, Feb. 21, 1957 (B. I. No. 659/1956).

to gain by submitting, since the results may prove nonpaternity but cannot prove paternity.

This situation appears to be covered in Maryland by Rule 420 of the Maryland Rules, effective January 1st, 1957:

"Whenever the mental or physical condition or the blood relationship of a party or of an agent or a person in the custody or under the legal control of a party, is material to any matter involved in any action, the court may, upon motion by any party and notice to all other parties, for good cause shown, order such party to submit to a mental or physical or blood examination by a physician or physicians or to produce for such examination his agent or the person in his legal custody or control."

Since adultery,³⁸ unlike fornication, is a crime in Maryland, this raises the question of whether the results of blood tests performed upon the wife against her will would, if admitted in evidence against her, constitute a violation of the privilege against self-incrimination guaranteed by the Maryland Declaration of Rights. 39 If Allen v. State 40 means. as it appears to mean, that Maryland draws the line in the area of experiments between passive (finger-printing, standing for identification, photographing) and active (trying on a hat in open court) conduct, the former being permissible, certainly there would be no difficulty. Also, if the case is interpreted as drawing the line between conduct required upon the witness stand as opposed to acts out of court to which another testifies, blood tests should be admissible. Nor, under recent Supreme Court decisions, is there any danger that compelling the respondent to submit to such a test would violate the Fourteenth Amendment guarantee of due process, so long as the test samples are taken without brutality or physical violence.41 A court order to submit under penalty of citation for contempt would be both effective and constitutional.

^{88 3} Md. Code (1957) Art. 27, §4. ³⁰ Art. 22 [9 Md. Code (1957) 42].

[&]quot; 183 Md. 603, 39 A. 2d 820 (1944). 41 Breithaupt v. Abram, 352 U. S. 432 (1957). For a discussion of selfincrimination, search and seizure, and due process in a related area, see Burgee, A Study of Chemical Tests for Alcoholic Intoxication, 17 Md. Law Rev. 193, 206-216 (1957). See also, 164 A. L. R. 967 and 25 A. L. R. 2d 1407. Blood tests have been held not to invade the "right" of privacy in Anthony v. Anthony, 9 N. J. Super. 411, 74 A. 2d 919 (1950) and Cortese v. Cortese, 10 N. J. Super. 152, 76 A. 2d 717 (1950).

WEIGHT AS EVIDENCE

In the divorce area as in other applications of blood tests there is the recurring problem of the weight to be given to the test results. The recent case of Prochnow v. Prochnow⁴² points up both sides of the problem. Joyce obtained a decree of divorce from Robert, and Robert appealed from that part of the decree which adjudged him to be the father of her child and ordered him to pay support money. The evidence showed that Robert entered the military service in February, 1953; that when he came home on furlough his wife was notably unappreciative of his presence: that during his absence she dated a man named Andy: and that there had been no sexual intercourse between Joyce and Robert during the possible period of conception except on one occasion. On that occasion, March 12. 1954. Joyce flew to San Antonio and had intercourse with Robert on the night of March 13. The next day before leaving for Milwaukee, she told him that she did not love him and that she was going to divorce him. Her complaint. alleging cruel and inhuman treatment, was served on April 8, 1954, and amended September 16 to include an allegation of pregnancy by Robert and a demand for support. On November 21 Joyce gave birth to a full term child which an obstetrician, called by Robert, testified possibly could have been the product of the March 13 intercourse. Jovce. of course, denied intercourse with any other man.

Before trial, two blood grouping tests were made of Robert, Joyce, and the child; the first on March 21, 1955; the second on September 29, 1955, under court order. The experts by whom or under whose supervision the tests were made testified that each test eliminated Robert as a possible parent.

On appeal the trial judge's finding of parentage was sustained by the Wisconsin Supreme Court, three justices dissenting. The court admitted that:

"Cynics, among whom on this occasion we must reluctantly number ourselves, might reasonably conclude that Joyce, finding herself pregnant in February or early March, made a hasty excursion to her husband's bed and an equally abrupt withdrawal when her mission was accomplished."⁴⁸

The court felt, however, that disregarding the blood tests, the record did not prove beyond a reasonable doubt that

⁴²⁷⁴ Wis. 491, 80 N. W. 2d 278 (1957).

a Ibid, 280.

Robert was not the father. Coming to the tests, the court noted that the Wisconsin statute only makes the test and its results admissible in evidence, there to be given such weight as the trier of fact considers that it deserves.

"The conclusion seems inescapable that the trial court's finding must stand when the blood-test statute does not make the result of the test conclusive but only directs its receipt in evidence there to be weighed, as other evidence is, by the court or jury."44

The judgment was therefore affirmed, and the court's bantering description of the situation fails to obscure the gravity of the injustice of its decision.

The heart of the argument against giving conclusive weight to the test was summed up in the lines ". . . whatever infallibility is accorded to science, scientists and laboratory technicians by whom the tests must be conducted, interpreted and reported retain the human fallibilities of other witnesses."45 But as the dissenting opinion observed, two tests six months apart by different experts in different laboratories reached the same result, and the correctness of the procedures and the qualifications and impartiality of the experts were unchallenged.

Justice Weingert, writing the minority opinion, conceded that the Wisconsin statute did not make the tests conclu-

sive, but he declared:

"The decision of questions of fact, and determination of the weight to be given to evidence of various types, are judicial functions exercised by the courts from time immemorial. It is the duty of the courts. as well as their power, to adopt the principles of proof best calculated to determine such questions correctly. They should not wait for the legislature to take the initiative to that end. Courts should not shut their eves to advances in science which conclusively establish a fact, by simply repeating the age-old maxim that credibility of witnesses is for the trier of fact."46

The minority did not overlook the possibility of human error in blood testing, saying:

"We would preserve to the party against whose contentions blood tests operate to the fullest opportunity to challenge the qualifications of the testers, the

[&]quot; Ibid, 281.

⁴⁸ Ibid, 280, 281.

[&]quot; Ibid, dis. op. 281, 285.

propriety of the testing procedures and the correctness of the report of their result. The plaintiff had such opportunity here, and failed to discredit the tests or the testers in the slightest degree."⁴⁷

In conclusion, no better summary of the area can be found than the prefatory note to the Uniform Act on Blood Tests to Determine Paternity:

"In paternity proceedings, divorce actions and other types of cases in which the legitimacy of a child is in issue, the modern developments of science have made it possible to determine with certainty in a large number of cases that one charged with being the father of a child could not be. . . . If the negative fact is established it is evident that there is a great miscarriage of justice to permit juries to hold on the basis of oral testimony, passion or sympathy, that the person charged is the father and is responsible for the support of the child and other incidents of paternity."

In Maryland, the law is still relatively undeveloped. It remains to be seen whether the initiative in that development will come from the courts or the legislatures. Certainly the $Cook^{49}$ case is not a very promising beginning.

[&]quot; Ibid.

^{48 9} U. L. A. (1957) 102.

⁴⁹ Daily Record, Feb. 21, 1957 (B. I. No. 695/1956).