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Robert Ratimorszky

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Blood Tests in Paternity Cases

*Robert Ratimorszky**

THE EVER INCREASING RATE of technological advancement, combined with the complexity of mass urban society, force us to face problems we never dreamed of, and to find legal solutions to social conflicts which lack reliable precedent in our legal system. Long accepted rules of law become outdated by recent developments faster than had ever before occurred in history. Once a scientific principle has been established, the legal system should adjust to prevent the injustices which result from obsolete laws. Man stepped on the moon—a fantastic technological achievement—but on earth man has a long way to go in abolishing laws rooted in the middle ages, laws which breathe the dusty air of religious bigotry and hypocrisy. Refusal to accept proven scientific achievement is as ridiculous today as it was when Galileo demonstrated the truth of the Copernican theory. In our judicial system, acceptance of certain scientifically proven techniques, such as nonpaternity proven by blood test exclusion as presented in this study, is painfully slow. It is hard to believe that as of August, 1969, only eight states had enacted the Uniform Act on Blood Tests to Determine Paternity.¹

When Dr. Landsteiner discovered the ABO blood group system in 1901, its application to the Mendelian law of inheritance provided a conclusive means of proof by exclusion in paternity cases, which once established, never fades or changes. It can be repeated at any time so long as the subjects are alive.

Despite this, legal use of blood tests had been curtailed for more than a half century by laws reflecting the traditions and morals of that period. Three fundamental thoughts survived for decades:

1. The irrefutable presumption that every child born in wedlock is a legitimate child of that husband;
2. A woman as a natural and social necessity is exploited by the man who has extramarital sexual relations with her, thus causing her pregnancy and the birth of their unwanted child;
3. As public policy, the state should be protected against undesirable financial burden regardless of the injustice done to the individual.

In the past, once a woman set her eyes on a prospect, that man became the father of her child even if he was proven impotent, was excluded by blood tests, was over 70 years of age and never had intercourse

* J.D., University of Budapest, Hungary; Third-year student at Cleveland State University, Cleveland-Marshall College of Law.

¹ Cal., Ill., N. H., Okla., Ore., Panama Canal Zone, Penna., and Utah.

with plaintiff.² In a similarly bizarre case, defendant had type O, mother type A and child type B blood. This conclusive exclusion of paternity was ignored by the jury, and upheld by the appellate court.³

Charges of paternity are among the easiest to make and the hardest to disprove.⁴ The social and legal status of women and the fact that they were defenseless against pregnancy eventually turned the sympathy of the juries toward the helpless mother and the innocent child, against whom society was prejudiced. As recently as 1951, a New York prosecutor admitted that he had successfully prosecuted many men unjustly. During an interview he stated that three out of every four paternity trials result in convictions. He further stated that public feeling is against the man. This is reflected in the courts and laws that are slanted in favor of the woman. In 23 years, prosecutor Schatkin handled about 5,000 cases and won about 3,700 convictions. In his opinion at least 750 of those convicted were not the fathers of the children involved. His study indicated that about 20 per cent of the convictions nationwide are unjust.⁵ A study done by Judge Walter G. Whitlatch and Dr. Roger W. Marsters resulted in a very different conclusion. In this detailed study of paternity cases in Cuyahoga County, Ohio, during the 25 year period from 1948 to 1961, they found that out of 12,000 paternity cases blood tests were made in 734 (only 6 per cent) and that out of these cases a mere 104 were excluded (14.2 per cent).⁶ In other words, out of 12,000 paternity cases 104 exclusions were observed, a mere 0.9 per cent, by the proof of blood tests. Although this study gives no estimate of the percentage of unjustly accused and convicted men, the authors use the term "mistakenly accused" emphasizing that they found practically no instances of the unwed mother filing a complaint against a man whom she did not believe to be the father of her child.⁷

Modern medical science has relied more and more on laboratory tests as medical technology advances. The results of laboratory tests are generally accepted by medical science as conclusive because the techniques applied are proven by scientific methods. The possibility of error in certain fields is exceedingly remote. Although it is unnecessary to study in great detail the blood grouping systems, it is quite important to understand the fundamental principles of their theory and practice. It is imperative for those who practice law to be open-minded and ready to accept the scientific achievements which are of great help to jurisprudence and justice.

² *Arais v. Kalesnikov*, 10 Cal. 2d 438, 74 P. 2d 1043 (1938).

³ *Berry v. Chaplin*, 74 Cal. App. 2d 652, 169 P. 2d 442 (1946).

⁴ Greene, *Blood will Tell*, 1 Mercer L. Rev. 266 (1950).

⁵ Pett, *Court Suits on paternity favor women*, *New Haven Register*, Oct. 29, 1951.

⁶ Whitlatch and Marsters, *Contribution of Blood Tests in 734 Disputed Paternity Cases: Acceptance by the Law of Blood Tests as Scientific Evidence*, 14 *Wes. Res. L. Rev.* 115 (1962).

⁷ *Ibid.*

The Blood Groupings

In 1865 Gregor Mendel developed his theory of inheritance of blood factors and the following general principles must be understood in order to interpret properly blood grouping for possible exclusion of parentage:⁸

1. Each person inherits one paternal and one maternal allele⁹ for each blood factor;
2. In logical consequence of this mode of inheritance a person can be either homozygous¹⁰ or heterozygous¹¹ for each blood factor;
3. In the case of some blood factors it is possible to distinguish between homozygotes¹² and heterozygotes,¹³ whereas for other blood factors this is not possible;
4. A person cannot possess a blood factor that is absent from the blood of both father and mother;
5. A blood factor cannot be absent in a person if one of his parents is homozygous for this factor;
6. If a parent is heterozygous for a factor of which both alleles can be demonstrated by suitable tests, his child must possess a blood factor corresponding to one of these two alleles.

The term blood groups has several possible meanings. In practice it refers most often to the A-B-O "major" blood groups, while the other theories are identified by the term system or blood type.

The ABO Blood Groups

The A-B-O blood groups were discovered by Dr. Karl Landsteiner in 1901.¹⁴ He found that red cells from the blood of one person would not in every instance, mix with the serum from the blood of others, but would often clump together (agglutinate). In humans there are naturally occurring antibodies, isoagglutinins, in the serum which would react with the red cells of certain other human subjects. On the basis of the presence of agglutinogens "A" or "B" he was able to classify the human blood as Group A, Group B, Group AB (containing both factors), or Group O (containing neither agglutinin).¹⁵

⁸ Todd-Sanford, *Clinical Diagnosis by Laboratory Methods* 314 (1962 ed.).

⁹ Allele, any of several forms of a gene, usually arising through mutation, that are responsible for hereditary variation.

¹⁰ Pertaining to homozygote (see n. 12 *infra*).

¹¹ Pertaining to heterozygote (see n. 13 *infra*).

¹² An organism with identical pairs of genes with respect to any given pair of heredity characters and therefore breeding true to those characteristics.

¹³ A hybrid containing genes for two unlike characteristics and therefore not breeding true to type.

¹⁴ Awarded Nobel Prize for Medicine, 1930.

¹⁵ Mollison, *Blood Transfusion in Clinical Medicine* (3d ed. 1961).

The presence of antigens in the red cells is determined by genes which are carried on the chromosomes. In all the cells in the body except the sex cells, chromosomes are present in pairs, and the genes controlling the inheritance of any particular series of blood group antigens are conceived as lying opposite one another, so that the effects are the result of the action of two sets of genes lying on the two members of a pair of chromosomes. In most cases no distinction need be made between genes and antigens, so that if a person inherits certain genes, the antigen can be detected in his red cells.

Some genes do not produce any recognizable effects, and are termed amorphs. Ignoring the question of subgroups, the inheritance of the ABO groups is thought to depend upon the genes A, B, and O. A and B give rise to corresponding antigens, but O is probably an amorph, for no product can be recognized. Although there are six possible genotypes, only four phenotypes can be recognized.¹⁶

TABLE 1
Phenotypes and Genotypes
*Illustrated by the ABO System*¹⁷
(ignoring subgroups)

<i>Phenotypes</i>	<i>Genotypes</i>
AB	AB
A	AA or AO
B	BB or BO
O	OO

The frequency distribution of the ABO blood groups indicates that 86 per cent of normal subjects tested had O or A blood:¹⁸

<i>Blood Group</i>	<i>Per Cent</i>
O	45
A	41
B	10
AB	4

It should be emphasized that although Blood Group Antigen tests are statistically of great use in Caucasian and Negro population they are useless in certain circumstances such as American Indians because they are all type O.

¹⁶ The term genotype is used for the sum of inherited genes whereas phenotype refers only to recognizable characteristics. In other words, genotype refers to the genetic determinants of the antigens of the red cells, while phenotype refers to the determinant antigen that can be tested in the laboratory. Consequently, the phenotype is not equivalent to the genotype.

¹⁷ Mollison, *op. cit. supra* n. 15.

¹⁸ Mollison, *Blood Transfusion in Clinical Medicine* (1968 ed.).

There are subgroups of group A, (A_1 and A_2). The significance of these is that A_2 reacts more weakly with anti-A antibody, therefore laboratory error is possible with weak antisera. This might be of some importance where the quality of the laboratory is questionable.

Frequency distribution of group A of Caucasians is indicated below:

Group A	
A_1	80%
A_2	20%
A_1B	60%
A_2B	40%

By applying the principles of Mendel to the ABO groups, the following laws of inheritance can be formulated:¹⁹

1. Factors A or B cannot appear in a child unless present in one or both parents;
2. A parent of group AB cannot have a child of group O;
3. A parent of group O cannot have a child of group AB;

TABLE 2

*Use of the ABO System for Exclusion of Parentage*²⁰

		PARENTS									
		O	O	A	B	B	B	AB	AB	AB	AB
		X	X	X	X	X	X	X	X	X	X
		O	A	A	O	B	A	O	A	B	AB
CHILDREN	O	O		O		O		O			
	A	A		A		A		A			
	B	B		B		B		B			
	AB	AB		AB		AB		AB			

Children of groups in double lined areas are excluded.

¹⁹ Todd-Sanford, *op. cit. supra* n. 8.

²⁰ *Ibid.*

TABLE 3
*Inheritance of the International ABO Factors*²¹

Blood Group of Parents	Blood Group of Children	
	Possible	Not Possible
O x O	O	A, B, AB
O x A	O, A	B, AB
O x B	O, B	A, AB
O x AB	A, B	O, AB
A x A	A, O	B, AB
B x B	B, O	A, AB
A x B	O, A, B, AB	None
A x AB	A, B, AB	O
B x AB	B, A, AB	O
AB x AB	A, B, AB	O

TABLE 4
*Blood Groups of Offspring Possible or Impossible From Any Mating Combination*²²

Alleged Father	Known Mother	Possible Children From Their Mating	Children Not Possible From Their Mating DECISIVE FOR NON-PATERNITY	Impossible From This Mother in Any Mating
O	O	O	A, B, (AB)	AB
O	A	O, A	B, AB	—
O	B	O, B	A, AB	—
O	AB	A, B	(O) AB	O
A	O	O, A	B, (AB)	AB
A	A	O, A	B, AB	—
A	B	O, A, B, AB	—	—
A	AB	A, B, AB	(O)	O
B	O	O, B	A, (AB)	AB
B	A	O, A, B, AB	—	—
B	B	O, B	A, AB	—
B	AB	B, A, AB	(O)	O
AB	O	A, B	O, (AB)	AB
AB	A	A, B, AB	O	—
AB	B	A, B, AB	O	—
AB	AB	A, B, AB	(O)	O

²¹ Whitlatch, *op. cit. supra* n. 6.

²² Boyd, *Fundamentals of Immunology*, 230 (3d ed. 1956). A similar chart appears in the work of Schiff and Boyd, *Blood Grouping Technique*, 132 (1942 ed.). Other authorities seem to agree with this grouping, see Snyder, *The Principles of Heredity*, 112 (1951 ed.); Anderson, *The Human Blood Groups*, 28 (1952 ed.); and Race and Sanger, *Blood Groups in Men*, 250 (1950 ed.).

The antigens M and N were discovered by Landsteiner and Levine in 1927,²³ by injecting human red cells into rabbits, absorbing the resulting immune serum with one sample of human cells, and showing that it would still react with other samples.

In very rare cases S and s antigens may be present whose inheritance is closely associated with that of M and N. The antigen S is significantly more frequent in blood which contains M than in blood which contains N.²⁴

The laws of inheritance of MN factors may be also derived from general principles of Mendelian inheritance:²⁵

1. A child cannot possess M or N unless these factors are present in the blood of one or both parents;
2. A parent of type M cannot have a child of type N;
3. A parent of type N cannot have a child of type M;

A child of blood type M must have inherited the M factor from both parents. The same applies to N factor. The MN type has inherited the M factor from one parent and the N factor from the other parent.

TABLE 5

Use of the MN System for Exclusion of Parentage²⁶

		P A R E N T S					
		M x M	M x MN	MN x MN	N x MN	M x N	N x N
C H I L D R E N	M	M	M	M	M	M	M
	MN	MN	MN	MN	MN	MN	MN
	N	N	N	N	N	N	N

Children of groups in double lined areas are excluded.

²³ Mollison, *op. cit. supra* n. 15.

²⁴ Race and Sanger, *op. cit. supra* n. 22.

²⁵ Todd-Sanford, *op. cit. supra* n. 8.

²⁶ *Ibid.*

Where blood type of mother and child is known, father is ruled out as follows:²⁷

TABLE 6

<i>Mother's Blood Type</i>	<i>Child's Blood Type</i>	<i>Father Cannot Be</i>
M	M	N
MN	M	N
N	N	M
MN	N	M
M	MN	M
N	MN	N

TABLE 7

*Inheritance of the MN Blood Factors*²⁸

<i>Parents</i>	<i>Children</i>	
	<i>Possible</i>	<i>Not Possible</i>
M x M	M	N, MN
N x N	N	M, MN
M x N	MN	M, N,
M x MN	M, MN	N
N x MN	N, MN	M
MN x MN	M, N, MN	None

The name of Rh factor is an abbreviation of Rhesus monkey because this antibody was first found in the blood of rabbits injected with Rhesus monkey red cells.²⁹ For most clinical and thus medico-legal purposes it is sufficient to divide human beings into Rh-positive and Rh-negative. The distinction is made by taking their red cells with the commonest kind of Rh antibody which in Fisher's nomenclature is known as anti-D; this antibody divides people into Rh (D)-positive (83 per cent of the Caucasian population) and Rh (D)-negative (17 per cent) meaning that the antibody is present in 83 per cent of the Caucasian population and absent in 17 per cent.

The test is much more complicated than the ABO or MNS but it may be roughly explained as follows:

1. None of the Rh factors: Rh₀(D), rh'(C), rh''(E), hr'(c), hr''(e) can be present in a person unless one or both parents possess the corresponding factor.

²⁷ Broadfoot, The "Gap" Between the Law of Paternity and the Science of Serology: Blood Tests in Non-Paternity Proceedings, 16 Mercer L. Rev. 306 (1964).

²⁸ Whitlach, *op. cit. supra* n. 6.

²⁹ Mollison, *op. cit. supra* n. 15.

2. A parent lacking the rh'(C) factor cannot have a child without the hr'(c) factor; vice versa, a parent lacking the hr'(c) factor cannot have a child without the rh'(C) factor.

3. A parent lacking the Rh''(E) factor cannot have a child without the hr''(e) factor; vice versa, a parent lacking hr''(e) factor cannot have a child without the rh''(E) factor.

TABLE 8
Inheritance of the Rh-Hr Factors D, C-c and E-e³⁰

<i>Group of Parents</i>	<i>Group of Children</i>	
	<i>Possible</i>	<i>Not Possible</i>
D (Rh ₀) -neg. x D (Rh ₀) -neg.	D (Rh ₀) -neg.	D (Rh ₀) -pos.
C (rh') -neg. x C (rh') -neg.	C (rh ₀) -neg.	C (rh') -pos.
E (r'') -neg. x E (rh'') -neg.	E (rh'') -neg.	E (rh'') -pos.
C (rh') -neg. x C/C (rh' homozygous)	C/c (heterozygous)	c/c (Cor rh'-neg. homozygous)
E (rh'') -neg. x E/E (rh'' homozygous)	E/e (heterozygous)	e/e (E or rh''-neg. homozygous)

The Eight Other Main Blood Group Systems

Ten factors (A, B, O, M, N, C, D, E, c, and e) representing the three most important systems are currently widely employed in blood grouping cases of disputed paternity. If all these ten factors are determined in a particular case, the defendant if he is not the true father has a 55 per cent chance of proving non paternity.³¹

TABLE 9
*Frequency Distribution of Exclusion
by the Three "Major" Blood Groups*

<i>Three "Major" Blood Groups</i>	<i>Per Cent Incorrectly Accused Can Be Excluded</i>
ABO	18
MNS	19
Rh-Hr	26

By applying these three major tests, plus five additional less widely publicized systems³² the probability of exclusion can be increased to 71.6 per cent.

³⁰ Whitlatch, *op. cit. supra* n. 6.

³¹ *Ibid.*

³² Mollison, *op. cit. supra* n. 15.

TABLE 10
*Probability of Exclusion in Per Cent*³³

<i>Blood Group System</i>	<i>Exclusion by Each System (First Level)</i>		<i>Exclusion by Each System (Second Level)</i>	
	<i>Combined Exclusion (First Level)</i>	<i>Combined Exclusion (Second Level)</i>	<i>Combined Exclusion (First Level)</i>	<i>Combined Exclusion (Second Level)</i>
1. ABO	16.5	16.5	16.5	16.5
2. MNS	18.7	32.1	23.9	36.5
3. Rh	1.8	33.3	25.6	52.7
4. Kell	4.2	36.1	4.7	55.0
5. Lutheran	3.3	38.2	3.3	56.4
6. Secretion	1.9	39.4	1.9	57.3
7. Duffy	5.0	42.4	18.3	65.1
8. Kidd	2.8	44.1	18.7	71.6

Reliability of Blood Tests

The accuracy of the ABO groups is 99.99 per cent. Mutations are also extremely rare in the MNS and Rh systems. For that reason these are the most often applied. There are two reasons why the other systems are not as often utilized for exclusion of parentage:

1. Sufficient quantities of potent and specific antisera are not always available.
2. In some of those systems studies of inheritance based on knowledge of alleles have not yet reached a stage warranting acceptance of results of medicolegal purposes.

Medical science is advancing so fast in this field that changes may be anticipated soon. Therefore, it is advisable for the practicing attorney to have the latest information at hand in trying a paternity case.

It cannot be emphasized enough that all tests must be made by experts. In some jurisdictions courts have the authority to select the proper physicians or other qualified persons.³⁴

There are two possibilities of error at the laboratory:³⁵

1. Exclusion overlooked.
2. Exclusion itself will be in error.

The first possibility is remote as shown by the results of 200 cases set up independently by a serologist and his technically competent assistant, each compiling his own data. Discrepancies between the two sets

³³ Boyd, *op. cit. supra* n. 22.

³⁴ Ohio Rev. Code, tit. 31, § 3111.16.

³⁵ Whitlatch, *op. cit. supra* n. 6.

occurred only rarely and never involved an exclusion of a putative father.³⁶

The second possibility is almost incalculable because the reactions are repeated at least once and often several times.

The testing physician must keep complete records of all tests done by him or his assistants.

The following steps have been suggested for blood test examinations:³⁷

1. All parties should be present at the time the blood specimens are taken to mutually identify one another;
2. It should be ascertained that none has had a transfusion in the previous six months;
3. A child with group A blood should not be tested under the age of one year, since the tests are unreliable at this age;
4. A blood test to determine paternity of a child is inappropriate prior to the birth of the child;
5. Infant must be at least one month old. If infant had a replacement transfusion at birth, the tests must be delayed for several months to a year;
6. Duplicate sets of tubes with names should be independently analyzed by the expert serologist, with another technically competent individual, both working independently;
7. Serum typing, as well as cell typing, to confirm the ABO blood groups should be performed on the adult bloods. The Coombs reaction should be performed on the Rh(D) tests if initial reactions are negative. Known blood controls should be included for all typings and preferably duplicate antisera should be employed for all Rh-Hr tests. Further, special attention should be devoted to the MNS typings employing duplicate or even triplicate tests with different antisera. It is essential to use known type M, N, and MN blood controls;
8. All blood specimens should be handled in an identical manner and tested at the same time under same conditions.

Uniform Act on Blood Tests to Determine Paternity

The Uniform Act on Blood Tests to Determine Paternity was approved by the National Conference of Commissioners on Uniform State Laws and the American Bar Association in 1952, and has since been adopted by only eight states.

³⁶ *Ibid.*

³⁷ Whitlatch, *op. cit. supra* n. 6.

Several other states have enacted statutes relating to blood grouping tests, but many of them failed to make the definite exclusion conclusive. Some states enacted the Uniform Act, but included so many changes that the Act could not be considered similar to the original.

Many jurisdictions have a strong presumption of legitimacy, in fact, a conclusive presumption of legitimacy of children born in wedlock, except in case of impotency, non-access, or a child of a different race.³⁸

Under the Uniform Act in a civil action, in which paternity is a relevant fact, the court, upon its own initiative or upon suggestion made by or on behalf of any person whose blood is involved, or upon motion of any party to the action made at the time so as not to delay the proceedings unduly, shall order the mother, child and the alleged father to submit to blood tests. If any party refuses to submit to such tests, the court may resolve the question of paternity against such party or enforce its order if the rights of others and the interest of justice so require.

The test shall be made by experts qualified as examiners of blood types who shall be appointed by the court. The experts shall be called by the court as witnesses to testify to their findings and shall be subject to cross-examination by the parties. Any party or person at whose suggestion the tests have been ordered may demand that other experts, qualified as examiners of blood types, perform independent tests under order of court, the results of which may be offered in evidence. The number and qualifications of such experts shall be determined by the court.

If the court finds that the conclusions of all experts, as disclosed by the evidence based upon the tests, are that the alleged father is not the father of the child, the question of paternity shall be resolved accordingly. If the experts disagree in their findings or conclusions, the question shall be submitted upon all the evidence. If the experts conclude that the blood tests show the possibility of the alleged father's paternity, admission of this evidence is within the discretion of the court, depending upon the infrequency of the blood type.

The presumption of legitimacy of a child born during wedlock is overcome if the court finds that the conclusion of all experts as disclosed by the evidence based upon the tests, show that the husband is not the father of the child.³⁹ As a general rule it is accepted that a blood grouping test is a "physical examination" within the meaning of the rule au-

³⁸ Commissioner's prefatory note, Uniform Act on Blood Tests to Determine Paternity.

³⁹ § 1, authorizing the compulsory blood grouping tests met relatively little opposition. The two essential sections of the act which were challenged by its opponents were sections four and five dealing with the automatic exclusion and overcoming the presumption of legitimacy.

thorizing the court to order a "physical examination" of the parties.⁴⁰ Compulsory blood testing is distinguished from other procedures taking matter from the body such as capsules of heroin.⁴¹ There are, however, decisions to the contrary.⁴²

Admission of Possibility of Paternity

Opponents of the admission of possibility of paternity upon all the evidence, as Section Four of the Uniform Act provides, argue, that most medical experts warn that blood grouping tests should be used strictly for exclusion of putative fathers and courts should refuse admission in evidence proof of possibility of paternity based on percentage of probability, such evidence being prejudicial.⁴³

In some exceedingly rare cases, where the child and one parent possess one of the unusual "private" or "family factors" this may be considered as strong presumptive evidence, according to medical authorities.⁴⁴ In *Groulx v. Groulx*⁴⁵ the New Hampshire Supreme Court held in a landmark decision: "In this respect the blood grouping tests were like other expert opinion evidence and entitled to such weight as the trial court wishes to give them." The Supreme Court concluded 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 ABO, MN and Rh-Hr.

Suppose the natural father of a child wants to prove his paternity (a case like this is conceivable after a tragic accident wiped out all children etc.) versus the "legal" father in a paternity proceeding, or the child wants to prove who his natural father is or was. In such cases admission upon all the evidence of "private" or "family factors" proven by blood tests might be of great value.

Section Five of the Uniform Act provides the right of the alleged father to prove his nonpaternity without a time limitation. In some jurisdictions, such as California, in order to avoid due process objections to conclusive presumptions the Supreme Court held that the conclusive presumption of legitimacy should not be rebutted as it states a rule of substantive law and not a rule of evidence.⁴⁶

⁴⁰ *Yee Szet Foo v. Dulles*, 18 F.R.D. 237 (S.D.N.Y. 1955). Also see *Beach v. Beach*, 114 F. 2d 479 (Ct. of App. D.C. 1940); blood groupings were regarded as part of physical condition and wife and child would be regarded as "parties" so that court had jurisdiction to order such tests.

⁴¹ Commissioner's note *op. cit. supra* n. 38.

⁴² In the absence of statutory authority a court in bastardy proceedings may not compel the parties involved to submit to blood tests, *Thomson v. Elliott*, 273 N.Y.S. 898, 152 Misc. 188 (1934).

⁴³ *Whitlatch, op. cit. supra* n. 6.

⁴⁴ *Todd-Sanford, op. cit. supra* n. 8.

⁴⁵ 98 N.H. 481, 103 A. 2d 188 (1954).

⁴⁶ *Hoffman, California's Tangled Web: Blood Tests and the Conclusive Presumption of Legitimacy*, 20 *Stan. L. Rev.* 754 (1968).

Section 621 of the California Evidence Code reads:

Notwithstanding any other provision of law, the issue of a wife cohabiting with her husband, who is not impotent, is conclusively presumed to be legitimate.

A Kentucky statute gives blood test exclusions absolute conclusiveness only in a certain class of cases while the test results are not conclusive in others. In bastardy cases it is conclusive while in cases where a child was born in wedlock the presumption can be rebutted only by the strongest evidence which is considered stronger than beyond a reasonable doubt.⁴⁷

There is a problem with the concept of biological paternity as a rationale for the duty of support *vis-a-vis* stability of the family. If biological paternity is accepted as the only reason for the duty of support, the stability of the family is endangered. A theory suggests that there should be a period during which biological paternity shall be relevant and once that period has passed, the putative father should be estopped from challenging his paternity. The presumption of paternity should then be conclusive. Under this concept, reasonable time should be given the husband to prove that he is not the father of the child and if he fails to exercise his right and prove his nonpaternity during such period, the interest of the child should prevail. Conversely, the presumption should prevent the "legal" father from harming the stability of the family by challenging the legitimacy of the child.⁴⁸

Ohio Law on Blood Tests

Although the Ohio Legislature so far has failed to enact the Uniform Act, Ohio courts have been favorably inclined toward the admission of blood test results as evidence in cases of exclusion. However, there is no statute in the State of Ohio as of now which would provide proof of blood tests as conclusive evidence of nonpaternity.

The *Ohio Rev. Code* Sec. 3111.16 states that whenever it is relevant to the defense in a bastardy proceeding, the trial court, on motion of the defendant, shall order that the complainant, her child, and the defendant submit to one or more blood grouping tests to determine whether by the use of such tests, the defendant can be determined not to be the father of the child. The test should be made by qualified physicians or other qualified persons, not to exceed three, selected by the court, and under such restrictions and directions as the court deems proper. In cases where exclusion is established, the results of the tests together with the finding of the expert of the fact of nonpaternity shall be receivable into evidence. The blood test experts should be subject to cross-examination

⁴⁷ *Ibid.*

⁴⁸ Hoffman, *op. cit. supra* n. 46.

by both parties after the court has caused them to disclose their findings. If either of the parties refuses to submit to the test, such fact shall be disclosed upon the trials unless good cause is shown to the contrary.

The Ohio Supreme Court holds against the admission of evidence proving the possibility of the alleged father's paternity, stating such evidence is prejudicial.⁴⁹

Recent Social and Economic Developments

Emancipation has changed the centuries-old status of women dramatically. The advent of the "pill" and other safe birth control devices brought an abrupt end to the long era of sexual exploitation of womanhood. Nowadays, with the exception of forcible rape, only the ignorant, or negligent female will have an unwanted child. Quite often if a woman wants a child, she is able to financially provide for him without blaming anybody for paternity. In many socially advanced countries of Europe, the stigma of illegitimacy is almost unknown. It is not true any more that the husband or the richest boyfriend will necessarily be the best provider for someone else's child. The interest of the child should be safeguarded under modern concepts and the biological father, not the husband or a man who has been medically excluded should have the burden of child support.

The cost of raising a child has undergone drastic changes in recent years. In the past the cost of upbringing was moderate in relation to the help the child provided for the family. Today, conservative estimates of the cost of bringing up a child, including giving him college education, go as high as \$60,000. It is only fair that the husband should have a chance to decide whether or not he wants to raise a child which is the fruit of adulterous conduct. It seems unjust that a shoplifter might get a prison term, while an adulterous wife may take tens of thousands of dollars out of her husband's pocket under the protection of conclusive presumption of paternity.

In a few decades a planned society may be forced upon mankind. The force of economic pressure will reduce the influence of religious organizations on many civil institutions. The concept of marriage, premarital, and postmarital, and extramarital sex life may face fundamental changes. The time may come when there will be very few unwanted children.⁵⁰ The young generation wants reforms now, not decades from now. No doubt the law of Domestic Relations faces radical changes despite the resistance of timid politicians.

Where legislatures fail to enact laws desired in society, the courts have been influential through their decisions. The change, of course, is

⁴⁹ Whitlatch, *op. cit. supra* n. 6.

⁵⁰ Trimble, Well, Here It Is Tomorrow Already, 55 A.B.A.J. 761 (1969).

much slower and less dramatic this way, but the decisions of courts pave the way toward the desired legislative action.

On the presumption of legitimacy, in *Schulze v. Schulze*⁵¹ a husband sued for absolute divorce and for the termination of the duty of support of the child. On appeal, the court recognized that the presumption of legitimacy of children born in wedlock is one of the strongest known to the law, but held that a blood test exclusion was sufficient to overcome this presumption.

Ohio courts have been favorably inclined toward the medico-legal mechanism from the beginning. In *Steiger v. Gray*,⁵² the court held: "In accordance with the enlightened judicial acceptance of the high value of blood grouping tests properly conducted, I hold that in absence of any competent proof that blood grouping tests were not properly made, the results of such tests, scientifically conducted and objectively made by doctors expert in such field, should be given such great weight by the Court that the exclusion of the defendant as the father of the child follows irresistibly."

In *Dolloff v. Sargent*,⁵³ the court stated on presumptions that there is a presumption that a child born to a married mother who is living with her husband is legitimate, but the presumption is rebuttable both under N.H. Stat. Ann. Sec. 522, and by common law; on the evidence required to rebut the court held that to rebut the presumption that a child born to a married mother who is living with her husband is the legitimate child of the husband, at common law, proof beyond reasonable doubt is not required, but the evidence must be of greater weight than required to support the probability, and is sufficient, if it is clear and convincing.

In *Beck v. Beck*,⁵⁴ a husband sought to be excluded from the paternity of his wife's child. The court gave judgment *non obstante veredicto* for the husband on the basis of blood test exclusion. In *C v. C*,⁵⁵ John C sued his wife for divorce and a judgment declaring plaintiff not the father of defendant's child. Physician's blood grouping test established conclusively that plaintiff was not the father of the child. Judgment was granted giving plaintiff a divorce and declaring him not the child's father and the counter claim was dismissed. The court stated: "The presumption of legitimacy is still strong in our law. It is not overcome except by very convincing evidence. Our legislature has recognized that blood grouping tests, however, reached the point of scientific acceptance

⁵¹ 35 N.Y.S. 2d 218 (1942).

⁵² 3 Ohio Ops. 2d 394, 145 N.E. 2d 162 (1957).

⁵³ 100 N.H. 29, 118 A. 2d 596 (1955).

⁵⁴ 153 Colo. 90, 384 P. 2d 731 (1963).

⁵⁵ 200 Misc. 631, 109 N.Y.S. 2d 276 (1951).

and that their results may be received into evidence where definite exclusion is established.”

The issue of biological paternity versus the stability of the family seems to turn upon the time element. A husband against whom a wife brought an action for support of minor children born during wedlock, was entitled to an order requiring the parties to submit to a blood grouping test when the husband denied paternity of the second child. One was conceived and born while the parties lived together, while the youngest child was conceived and born after the parties had separated.⁵⁶

*Weston v. Weston*⁵⁷ represents the desirable general rule. The husband was not entitled to a grant of his petition, in a support action, for blood tests to determine paternity of children where the husband had lived with his wife during the time the children in question were conceived and for several years after their birth; and did not deny paternity until after the separation of the parties.

*Kusior v. Silver*⁵⁸ exemplifies the admission of possibility of paternity upon all the evidence. In an action to establish paternity and to provide for support of a child born nine days after the entry of final decree of divorce wherein there was evidence that the husband was not impotent, that the husband and wife had cohabited, that according to blood tests husband could not have been father of child, but defendant (boyfriend) was in class of persons who could have been the father of the child, instruction that the report of blood tests did not establish that the defendant was the father of the child but only that he was one of a group that could have been and that such a report was to be considered together with all the evidence in resolving the issue of whether the defendant was the father of the child, the Supreme Court overruled the lower court's decision, holding that the fact that blood tests showed that the husband could not have been the father of the child and that the defendant fell within a class of persons who could have been the father of the child did not preclude the court from giving instructions with regard to the conclusive presumption of legitimacy. In another California case,⁵⁹ the court applied the statutory conclusive presumption in the same way, holding that evidence in a proceeding to modify an interlocutory divorce decree, supporting the finding that the wife at the time of the child's possible conception was cohabiting with the husband and that the period of gestation was normal, so that the statutory conclusive presumption of legitimacy applied even though blood tests showed that the husband could not have been the father of the child.

⁵⁶ *Goldman v. Goldman*, 199 Pa. Super. 274, 184 A. 2d 351 (1962).

⁵⁷ 201 Pa. Super. 554, 193 A. 2d 782 (1963).

⁵⁸ 54 Cal. Rptr. 603, 354 P. 2d 657 (1960).

⁵⁹ *Wareham v. Wareham*, 15 Cal. Rptr. 465, 195 Cal. App. 2d 64 (1961).

Conclusion

Medical science has developed and provided absolute proof of non-paternity by exclusion with the probability higher than 71.6 per cent. The blood tests determining nonpaternity by exclusion are conclusive.

Despite this conclusive and scientifically proven medical system of exclusion, legislatures and courts in many jurisdictions are still slow in accepting the irrebuttable proof of blood grouping tests. Resentment is strong in many jurisdictions against the admission of possibility of paternity upon all the evidence. The argument that if admitted, such evidence is prejudicial holds in many jurisdictions including Ohio.

Legislatures and courts should take cognizance of the proof of blood tests in paternity cases in this country as it is being done in most other civilized countries in the world.

The Uniform Act On Blood Tests To Determine Paternity should be enacted by all states and territories as recommended by the Commissioners with one modification of Section 1 to provide the court with authority to refuse to order blood tests to prove nonpaternity once the period has passed during which biological paternity is relevant. Such period should not be longer than 3 years from the birth of the child. The presumption of legitimacy should be rebuttable on balance of probabilities and the same standard of proof should apply to adultery. The law should require corroboration of the woman's testimony in all paternity cases.