Appendix E

International Developments

Major reports on the ethical and legal aspects of noncoital reproductive technologies have been issued by governmental or nongovernmental bodies in Australia, Canada, the Federal Republic of Germany, France, Israel, South Africa, Sweden, and the United Kingdom. At least 33 other countries have had considerable professional or public debate concerning these technologies.

Several international organizations are also considering the issues raised by reproductive technologies, including the Council of Europe, the World Health Organization, the European Parliament, and the Feminist International Network of Resistance to Reproductive and Genetic Engineering (FINRRAGE). This appendix surveys countries and organizations as follows:

overall, the international trend is toward accepting artificial insemination by husband and by donor. If artificial insemination by donor is used with a husband's consent, the child is generally considered his irrefutably legitimate offspring. In vitro fertilization (IVF) is also widely accepted, if it is done for a married couple and donor gametes are not used. Surrogate motherhood and ovum donation have achieved far less widespread acceptance, and, even where permitted, are often not commercialized. Research on human embryos is neither universally accepted nor rejected; it is often an item of disagreement within individual countries.

MAJOR NATIONAL EFFORTS REGARDING NONCOITAL REPRODUCTION

Australia

There has been considerable activity in Australia surrounding novel reproductive techniques, including federal and state reports, state legislation, and professional self-regulation.

Three reports have been published on the federal level. In 1985, the Senate Standing Committee on Constitutional and Legal Affairs published a report on lVF *and the Status of Children* (12), examining the lack of uniformity in previous legislation establishing the status of IVF children and evaluating the significance of

this lack. Also in 1985, the Family Law Council of the Attorney-General's Office published a report examining reproductive technology in Australia, entitled *Creating Children: A Uniform Approach to the Law and Practice of Reproductive Technology in Australia (9).* Both of these reports stated that there should be uniformity of law throughout Australia regarding the status of children born using donor gametes, and the Family Law Council further emphasized the need for uniform regulation of reproductive technologies.

In the same year, a bill prohibiting experiments involving the use of IVF embryos (the Human Embryo Experimentation Act, 1985) (7) was introduced to the senate. The bill, which would have prohibited experimentation on embryos, sparked considerable controversy and was referred to a senate select committee for deliberation. The committee solicited written submissions from a wide range of organizations and individuals with interest and expertise on the topic; it also conducted public hearings all over the country, taking testimony from 64 witnesses. The submissions and testimony are published in a series of volumes totaling more than 2,000 pages (8). In 1986 the committee released its final report, *Human Embryo Experimentation in Australia* (11).

Considerable action has also taken place on the state level regarding reproductive technology. In 1977, the Australian Law Reform Commission completed a series of reports urging that legislation be considered concerning artificial insemination. In 1982, the Australian states began taking independent action (10). Since then, official inquiries and committees concerned with noncoital reproductive techniques have been set up in every state, issuing numerous reports:

- New South Wales, New South Wales Law Reform Commission
  —Artificial Conception Discussion Paper 1: *Human Artificial Insemination* (November 1984) (84)
  —Artificial Conception Report 1: *Human Artificia/ Insemination* (November 1986) (85)
  —Artificial Conception Discussion Paper 2: *In Vitro Fertilization* (July, 1987) (86)
- Queensland, *Report of the Special Committee Appointed by the Queensland Government to Enquire into the Laws Relating to Artificial Insemination, In Vitro Fertilization and Other Related Matters* (March 1984) (97)
- South Australia, *Report of the Working Party on In Vitro Fertilization and Artificial Insemination by Donor* (January 1984) (114)
- Tasmania, Committee to Investigate Artificial Conception and Related Matters
  –*Interim Report* (December 1984)
  –*Final Report* (June 1985) (124)
- Victoria, Commission for the State of Victoria, Committee to Consider the Social, Ethical, and Legal Issues Arising from In Vitro Fertilization (under the direction of Professor Louis Wailer)
  –*Interim Report* (September 1982)
  —*Issues Paper on Donor Gametes in IVF* (April 1983)
  –*Report on Donor Gametes in IVF* (April 1983)
  —*Report on the Disposition of Embryos Produced by In Vitro Fertilization* (April 1984) (128)
- Western Australia, Committee to Enquire into the Social, Legal, and Ethical Issues Relating to In Vitro Fertilization and Its Supervision
  –*Interim Report* (August 1984) (135)
  –*Report* (October 1986).

Most states have enacted uniform legislation clarifying the status of children born using donor gametes, but Victoria's action, in response to the Wailer Commission, is the most extensive, imposing statutory control on the practice of IVF and artificial insemination by donor (85). In 1984, the Victorian legislature passed the Status of Children (Amendment) Act and the Infertility (Medical Procedures) Act. The Status of Children Act states a child born following artificial insemination or in vitro fertilization with donor gametes is the legitimate offspring of his or her mother and her consenting husband.

The Infertility (Medical Procedures) Act (Nos. 10122-10171, 1984) continues the Australian ban on sales of human tissues, including sperm, ova, and embryos, and outlaws cloning, fertilization of a human ovum with an animal gamete, use of children's gametes, mixing donor's and husband's sperm in artificial insemination by donor, and all commercial forms of surrogate motherhood. It also sets up a system of state regulation for donor insemination, IVF, freezing and experimenting on embryos, participant counseling, and recordkeeping. In addition, a Standing Review and Advisory Committee was created to monitor the use of experimental procedures and to study and report to the Government about new developments in this field. Most importantly, the act bans the production of embryos for research purposes and allows research on surplus embryos only if this has been approved by the Standing Review and Advisory Committee. Legislation to amend the act, arising out of recommendations made by the Standing Review and Advisory Committee on Infertility, was introduced into the Victorian Parliament in April 1987 and was scheduled for debate (133).

Australia has a national regulatory system concerned with ethical aspects of research on humans. This system is guided by the National Health and Medical Research Council (NHMRC), a body charged with advis-

ing federal, state, and territory governments and the Australian community on health-related matters (75). The NHMRC'S regulatory system consists of two components, the Medical Research Ethics Committee (MREC) and a network of Institutional Ethics Committees (IECS). The MREC was constituted in 1982 as an advisory committee to the NHMRC, charged with recommending ethical principles to govern human experimentation and providing ethical guidelines for research in certain fields, supervising the work of the IECS, and maintaining dialogue with the Commonwealth and state ministers of health and attorneys general and to the community. The IECS are in-house ethics committees that have been established in all Australian hospitals and other institutions conducting research on humans (75).

The NHMRC guidelines consist of a general statement on human experimentation and a series of supplementary notes addressing ethical aspects of research in particular fields, each of which has been published separately with numerous supporting documents. The primary recommendation of the statement on human experimentation was the establishment of an Institutional Ethics Committee in any institution in which human experimentation takes place. The guidelines as a whole were published together in 1985 in the *NH&MRC Statement on Human Experimentation and Supplementary Notes (82).* The MREC continually reviews and updates the supplementary notes, in addition to preparing new reports on various topics. The supplementary notes of particular interest for this report are number 1, *Institutional Ethics Committees,* and number 4, *In-Vitro Fertilisation and Embryo Transfer,* discussed in greater detail later in this section.

In 1987, some 116 institutions were stated to be conducting medical research; all of them already conformed to the NHMRC guidelines or were making adjustments to do so (75).

Artificial Insemination

In 1983, the Family Law Act of 1975 was amended to state that a child conceived by a married woman using donor sperm with the consent of her husband is legitimate. In 1985, amendments to the Marriage of 1961 allowed recognition of this presumption of legitimacy if each state enacted the necessary legislation. Thus, the initiative was left to the states (85).

New South Wales (in the Artificial Conception Act, 1984), Victoria (in the Status of Children Act, 1984), South Australia (in the Family Relationships Amendment Act, 1984), Tasmania, Western Australia, the Australian Capital Territory, and the Northern Territory have all enacted legislation stating that children resulting from artificial insemination or IVF with donor gametes are the legitimate offspring of the mother and her consenting husband or partner (stable unmarried couples are included in this legislation). Queensland is in the process of enacting legislation related to artificial insemination (85).

The state committees and commissions listed earlier agree that artificial insemination by donor is acceptable in principle, provided donor screening and donor and recipient counseling are performed. All but the Victorian committee agreed that couples in stable relationships as well as married couples should have access to this technique *(134).* All but one committee specified that there should be a limit on the number of donations allowed, and all but two specified that payment should be limited to expenses. The committees were split on the issue of using known donors, while most of them agreed that recipients and children of donor sperm should have access to nonidentifying information about the donor. All of them urged proper recordkeeping at the institutional level, and most even recommended varying types of central registries to record information about gamete donors and children resulting from artificial insemination by donor and IVF.

Oocyte Donation

All six state committees found egg donation permissible, provided that proper screening and counseling are performed. All but two specified that payment for donation of oocytes should not be allowed (excepting reimbursement of expenses), and Victoria's Infertility (Medical Procedures) Act forbids the sale of human gametes. The recommendations concerning number of donations, anonymity, access to information, and recordkeeping are identical to those for sperm donation (134).

The NHMRC guidelines state that ovum donation is acceptable, provided proper consent is obtained and no payment occurs (82).

In Vitro Fertilization

All the state committees considered IVF acceptable in principle, both with and without donor gametes, provided it is being used on medical grounds and the coupIe receives counseling. All the committees agreed that the procedure should be made available to couples only, but the Wailer Commission in Victoria further specified that marriage should be required (134).

Only the South Australia report forbade donation of embryos (114), although the Western Australian committee specified that embryo donation should be used only in rare cases (135).

On the federal level, the Family Law Council's recommendations were largely similar to those of the state

reports-counseling should be required, adequate records should be kept, and donated gametes are considered acceptable (subject to better standards and guidelines). However, the Council did not approve the use of known related donors; known unrelated donors were considered acceptable. Furthermore, the Council recommended that children born from donor gametes have access to nonidentifying information about their genetic parents before the age of 18 and identifying information after 18 (9).

The NHMRC guidelines on IVF also agree that IVF is a justifiable means of treating infertility. However, they state that much research still needs to be done, and therefore certain rules should be followed. Most importantly, every institution offering IVF should have all aspects of the program approved by an institutional ethics committee. These committees must include at least five people—a laywoman, a layman, a minister, a lawyer, and a medical graduate with research experience. This committee must ensure that proper records are kept. Furthermore, the guidelines state that IVF should normally involve the ova and sperm of the partners (82).

In 1985, the MREC conducted a study of IVF centers and found that they were following the NHMRC guidelines. The only exceptions were that several of the IECS did not have proper lay representation (83).

Freezing and Storage of Human Sperm, Oocytes, and Embryos

Cryopreservation of oocytes was not universally accepted by the state committees as it was considered an experimental procedure. Legislation in Victoria forbids the procedure, as it would involve research on the resulting embryos to determine any deleterious effects (15). All the committees save the one in Western Australia, which did not resolve the issue (134), considered freezing embryos acceptable in principle but refrained from supporting oocyte freezing unconditionally until the technology improves. Only the commissions in Victoria and South Australian suggested a time limit for storage of frozen embryos (114,134).

The NHMRC guidelines approve cryopreservation of embryos, provided limits are set on the duration of storage (82). During their discussion of research on human embryos, the senate select committee on the Human Embryo Experimentation Act, 1985, stated that cryopreservation is acceptable if it maximizes the chance that the embryo will be implanted and carried to term (11).

Research on Preimplantation Embryos

Only the commissions in Victoria and Western Australia considered human embryo research acceptable *(128,135)*. They considered excess embryos (i.e., those, left over from a therapeutic IVF attempt) to be the only acceptable source of embryos for research, and they set a time limit of 14 days on the duration of embryo culture. In Victoria, the Infertility (Medical Procedures) Act bans the production of embryos solely for research and allows research on surplus embryos only if the specific experiment has been approved by the Standing Review and Advisory Committee (134). At the federal level, the Family Law Council report opposed all research on human embryos (9).

The NHMRC guidelines find research on embryos acceptable up to the stage at which implantation would normally occur, provided each experiment is approved by the appropriate IEC. Cloning is rejected outright (82).

In its 1986 report, the senate select committee on the Human Embryo Experimentation Act, 1985, recommended that experiments designed to help an embryo be allowed but that all experiments resulting in the destruction of an embryo be outlawed. The committee did not find the currently operating system of IECS adequate, nor did it support the criminal law approach of the proposed bill. Instead, the committee recommended an accreditation and licensing scheme to assess each experiment on a case-by-case method. A dissenting minority argued that embryo research should not be restricted to therapeutic experimentation only (11).

Surrogate Mothers

Four of the state committees rejected surrogacy arrangements unconditionally—South Australia, Tasmania, Victoria, and Western Australia—and the Queensland report opposed commercial surrogacy and suggested that legislation should ensure that the birth mother remained the mother of the child (97,114,124,134,135). The New South Wales Law Reform Commission has not yet addressed the question of surrogacy, but the practice is effectively illegal in New South Wales as it is illegal for a mother giving up a baby for adoption to designate to whom the baby should be given (105). Commercial forms of surrogacy are also illegal under Victoria's Infertility (Medical Procedures) Act.

The Family Law Council report stated that surrogacy is contrary to the interests and welfare of the child (9), and the NHMRC guidelines state that surrogacy is not ethically acceptable (82).

Canada

Canada is a federation of 10 provinces and two territories. Under Canada's federal system, provinces and territories are responsible for the provision of health

care. National health insurance is provided in Canada through a series of interlocking provincial and territorial plans, sharing common elements. Insured services vary from province to province, but a fairly comprehensive range is provided by all provinces (91).

To qualify for federal financial support, provincial hospital and medical care insurance plans must meet minimum criteria of federal legislation: comprehensiveness of coverage of services, portability of benefits, and nonprofit plan administration by a public agency. The plans are designed to ensure that all residents of Canada have access, on a prepaid basis, to needed medical and hospital care. In general, medical and hospital services, diagnostic procedures to determine the incidence and etiology, and the surgical or medical treatment of infertility are covered benefits under provincial health insurance plans (91).

Although the federal government role in issues surrounding health care is limited, there are certain areas that do fall under federal jurisdiction. For example, the government has the authority to regulate medical devices and the storage of sperm. Accordingly, in 1981, an advisory committee to the Minister of National Health and Welfare recommended guidelines concerning the storage and utilization of human sperm (29). Although no federal action has been taken in response to this report, several individual provinces have either released reports or taken legislative action on various aspects of this issue.

Currently, the Protection of Life Project of the Law Reform Commission of Canada has established a working group to examine a number of issues, including embryo experimentation and novel reproductive techniques, as they relate to the legal status of the fetus. The report will be directed to federal law (e.g., criminal law) rather than those areas of law under provincial jurisdiction, and the commission will make recommendations to the federal Parliament (54).

Four provinces—Alberta (Status *of Children)* (l), British Columbia *(Ninth Report of the Royal Commission on Family and Children Law: Artificial Insemination) (17),* Ontario *(Report on Human Artificial Reproduction and Related Matters) (90),* and Saskatchewan *(Proposals for a Human Artificial Insemination Act)* (102)–have published reports addressing reproductive technologies. Only two, Quebec and the Yukon Territory, have any legislation addressing these issues, and that legislation deals only with artificial insemination by donor.

Of the provincial reports, the Ontario Law Reform Commission's report of 1985 is the most comprehensive (64). The other reports dealt only with artificial insemination. The Ontario Law Reform Commission made 67 specific recommendations, generally favoring noncoital reproduction "where medically necessary to circumvent the effects of infertility and genetic impairment ." It recommended that these procedures be legislatively defined as the "practice of medicine." Access to them should be restricted to '(stable single women and to stable men and stable women in stable marital or nonmarital unions" (90).

In 1987, the Office of the Attorney General of Ontario organized an interdepartmental committee to study artificial insemination, human embryo research, and surrogate motherhood and to review' the recommendations of the Ontario Law Reform Commission report (61). There have been no decisions to date.

The Government of Quebec has a Council on the Status of Women that examines a number of topics relating to women's rights. The Council has reviewed clinical and legislative developments with regard to certain reproductive technologies, but its 1985 and 1986 series of studies made no specific recommendations for action by the Quebec Government (92,93,94,95).

Artificial Insemination

The Minister of National Health and Welfare's advisory committee on the storage and utilization of human sperm released its report in 1981. Briefly, the committee recommended that there be provincial legislation ensuring that a child conceived by donor insemination is considered the legitimate child of the mother and her consenting husband; that federal regulations govern standards for the acquisition, preservation, and importation of sperm (the committee made specific recommendations for the standards themselves); and that artificial insemination by donor be available only in facilities where guidelines are met to safeguard the donor, the recipient, and the resulting child (29).

Legislation relevant to artificial insemination exists in two Canadian provinces. In Quebec, the Civil Code provides that the child conceived by donor insemination is presumed to be the legitimate child of the consenting spouse. As of 1984, the Yukon Territory's Children's Act provides that the consenting husband or cohabitant of a woman who undergoes artificial insemination is considered the legal father of the child, and that the semen donor is not considered the legal father (90).

All four of the provincial reports published to date in Canada agreed that a child born to a married couple through artificial insemination by donor should be considered their legitimate child if both gave written consent. The British Columbia report *further stated* that the husband should have all rights and duties to the child, and the donor should remain anonymous (17). The Law Reform Commission of Saskatchewan actually proposed legislation to ensure the legitimacy of the child, relieve anonymous donors from obliga -

tions toward any resulting children, and provide extensive protection of the privacy of donors, recipients, and children born as a result of artificial insemination (102).

The Ontario Law Reform Commission recommended that screening for infectious and genetic diseases should be regulated by professional standards. Limits on the number of times any one donor is used should be left to the discretion of the medical profession. Donors should be paid their reasonable expenses, but no more. Anonymity of all parties should be maintained, although in the case of genetic disease the doctor should have a duty to disclose relevant information (90).

Quebec's Council on the Status of Women reported on feminist analyses of artificial insemination by donor, noting the feminist criticism of attempts to medicalize the procedure and to ban self-insemination (92,93, 94,95).

Oocyte Donation

The Ontario Law Reform Commission, in the only Canadian report to date that has considered the issue, considered oocyte donation permissible. Furthermore, the commission stated that reimbursement of reasonable costs should be allowed, and that reimbursement of ovum donors might be greater than that of sperm donors as an invasive procedure is involved (90).

In Vitro Fertilization

The federal government of Canada currently maintains a registry to keep track of children conceived by IVF (65), The Ontario Law Reform Commission considered IVF acceptable in principle, implicitly stating that it should be used for medical reasons only *(134).* Donation of eggs and embryos was considered acceptable (90). Quebec's Council on the Status of Women noted the feminist critique that insufficient experimentation had preceded introduction of IVF as a clinical practice (92,93,95) and that insufficient efforts have been made to guard against its use as a prelude to eugenic prenatal diagnosis (95).

The Ontario Law Reform Commission stated that preconception sex selection in the context of IVF should be discouraged but that any law prohibiting physicians from telling a couple the sex of embryos is not desirable. The Council on the Status of Women in Quebec made a stronger statement, urging that sex selection of embryos or children should be forbidden (96).

IVF is provided as an insured service in Ontario, but only at designated centers. Prince Edward Island covers IVF, with the exception of laboratory costs. Some other provinces make the service available on an uninsured basis (9 I).

Freezing and Storage of Human Sperm, Oocytes, and Embryos

The report of the advisory committee to the Minister of National Health and Welfare, *Storage and Utilization of Human Sperm,* stated that freezing sperm should be allowed. Concerned about the quality of frozen sperm, the committee recommended that "until regulations establishing federal standards of quality are in effect for Canada, the importation of sperm from commercial human sperm banks should be prohibited; and no new human sperm bank should be allowed to operate outside the jurisdiction of a university or other publicly owned agency" (29). The British Columbia report recommended that sperm banking be allowed only under professional and governmental surveillance (17).

The Ontario Law Reform Commission suggested that gamete banks that buy and sell sperm, ova, or embryos should operate under federal license and should extract payment from users "to defray reasonable costs, and perhaps, to provide a reasonable profit" (5). The commission recommended limiting storage to no more than 10 years, as well as permitting disposal of excess embryos.

Research on Preimplantation Embryos

Two Canadian reports consider research on human embryos. The Ontario Law Reform Commission found embryo research acceptable in principle and approved both surplus embryos and embryos created for research purposes as acceptable sources, with a time limit of 14 days after fertilization.

In 1984, the Medical Research Council of Canada's Standing Committee on Ethics in Experimentation reviewed the adequacy and currency of the council's 1978 guidelines for the protection of human subjects in research. The committee published the revised guidelines on research involving human subjects in 1987. With regard to research on human embryos, the committee recommended that at first only research "directed toward improvement of infertility management" should be allowed, using embryos up to no more than 14 to 17 days. The committee opposed the creation of embryos for research purposes. Approval of specific research proposals involving human embryos should be made by local research ethics boards (30).

Surrogate Mothers

The Ontario Law Reform Commission recommended that surrogate motherhood contracts be enforceable, but only with the prior and continuing involvement of a family law court. The commission felt that the court should supervise the screening and counseling

of the surrogate and the client, review the drafting of the contract, and monitor the fee for the surrogate (134).

Quebec's Council on the Status of Women noted the feminist criticism that the practice of surrogacy threatens to destroy unified definitions of motherhood, by dividing maternity into gestational, genetic, and social components (92,93,94), and threatens to compromise the autonomy of pregnant women by encouraging contractual or governmental restrictions on their decisions concerning prenatal diagnosis and care (94,9.5).

Federal Republic of Germany

No national organization in West Germany regularly considers biomedical developments and ethical or political responses (103). Nor do hospitals have ethics committees or institutional review boards, unless they are teaching or research hospitals (104). However, a number of private and governmental committees are considering guidelines for noncoital reproduction and embryo research. These include the Bundesarztekammer's Wissenschaftlicher Beirat (Scientific Council of the German Medical Association), which issued guidelines for professional standards on IVF and embryo research (18, 19, 103). During their annual conventions in 1970 and 1985, West German physicians passed resolutions concerning artificial insemination and IVF, and subsequently issued guidelines related to IVF (24). Membership in the organization is obligatory for any practicing physician, and the association has a greater ability to dictate policy and enforce its guidelines than does any American association (67).

Another active group has been the Bundesministerium fur Forschung und Technologies (Federal Ministry for Research and Technology), which initiated discussion of ethical implications of biotechnology (51, 103), as well as collaborated with the Ministry of Justice to consider restrictions on noncoital reproduction (50). Their joint report, known as the Benda Report, was completed in 1985 and recommended numerous restrictions on the use of noncoital reproductive techniques.

In 1987, an ad hoc commission to the German Parliament (known as the Enquete Commission) delivered a report on biotechnology that recommended the acceptance of reproductive and genetic technology subject to strong legal regulation (52,67). Also in 1987, the Federal-State Working Group on Reproductive Medicine published an interim report, which is more liberal in its proscriptions (48). This committee, consisting of representatives of the justice and health ministries of the federal government and of the states, was created by mandate of the upper house of the German Parliament, and its report is expected to gather wide political support (57). No action has been taken yet on either report, although draft bills concerning surrogacy and embryo management are now under consideration by various ministries (57).

Artificial Insemination

In their resolution of 1970, the German Medical Association stated that donor insemination is not contrary to professional ethics, but that it is so beset with difficulties that they could not recommend the procedure (24). The Benda Report also expressed strong reservations about its use, noting concern about releasing the genetic father from responsibility for his child; about selecting donors, both in terms of having a third party select the father of a child and the possibility of eugenic considerations playing a role; and about any inbreeding that might result.

There is no statute in West Germany pertaining to the legitimacy of a child conceived by donor insemination, but two cases in 1982 and 1985 addressed the question. Under German law, any husband has the right to contest paternity, within a specified period of time. If successful, the child's genetic father (even if an anonymous sperm donor) may become legally responsible. The 1982 case allowed a paternity challenge when a husband objected that the child his wife had borne was conceived by extramarital intercourse rather than by the artificial insemination attempts that had been ongoing during this period.

A *1985* decision, on the other hand, ruled that if a man has agreed to his wife's use of donor semen and has renounced his right to contest paternity, he may not later challenge the legitimacy and paternity of the resulting child, despite the fact that he was now leaving the marriage and joining another woman. At least one commentator applauded the latter decision, noting that it is always possible to be certain of the paternity of a child, and that artificial insemination practice would become untenable if men could routinely present postbirth objections to the paternity of a child, despite their earlier agreement (81).

The Benda Report recommended that a child conceived by donor insemination should have free access to the details of his or her parentage, stating that the personal details of the donor be recorded and made available to the child produced when he or she turns 16. Similar recommendations were made in a 1986 report by the national legal association (42). This, coupled with sperm donors' fears of future responsibility toward the children, has made donor insemination rather uncommon (103).

The Benda Report recommended that one sperm donor be used for no more than 10 births. Beyond this

it did not comment on screening sperm. As the German Medical Association, fearing commercial misuse and involuntary incestual relationships, had previously recommended that donor semen not be used, the Benda Report generally did not address regulation of semen donation, for the practice would probably not be used extensively.

The report of the federal-state working group addressed artificial insemination by husband and by donor separately. The report specified that insemination by a woman's partner should be available to married or unmarried couples, but only if medically indicated. The written permission of the husband or partner should be required, and sex selection and postmortem insemination should be forbidden (48).

The working group recommended that donor insemination be available only when the male has otherwise untreatable infertility. **It should not be available to unmarried couples or single women. Consultation by a doctor should be required. The husband must be a voluntary participant, as indicated by a notary deed stating his intention to accept paternity. The man thus loses his right to renounce his consent to the procedure; he cannot regain this right unless he obtains another notary deed. All claims for support and inheritance between the donor and the resulting child should be excluded, but a petition for a declaration of fatherhood without these financial effects should be possible.**

As the working group, unlike the Benda commission, did consider donor insemination a potentially widespread practice, their report addresses regulation of semen donation. The recommendations state that one donor should not be used for more than one live birth, and mixing sperm should be forbidden. There should be a central register of donor data that remains confidential, but the possibility of allowing the child to learn his or her genetic heritage should remain open. Doctors should be allowed to screen donors for health and similarity to the recipient's husband only, and payment of donors should be forbidden. Donor semen should be screened before insemination and should not be transferred from doctor to doctor. The use of a deceased donor's sperm is forbidden (48).

Oocyte Donation

Current legislation in West Germany does not cover egg donation. The Benda Report recommended that the woman who gives birth, rather than the genetic mother, be initially regarded as the lawful mother, just as the husband of an artificially inseminated woman should initially be considered the lawful father, The birth mother may not have any grounds to contest legitimacy, as she has contributed substantially to the birth by carrying the fetus. The legal position on this point is unclear.

As with artificial insemination by donor, the Benda Report did not address regulation of egg donation, as the medical establishment does not condone the procedure. However, it maintained that the child resulting from ovum donation should have free access to the details concerning his or her genetic mother.

Like the medical establishment, the federal-state working group did not approve oocyte donation. However, the report did state that civil law should recognize the birth mother as the legal mother of any child (48).

In Vitro Fertilization

The resolution of the 1985 physicians' convention concerning IVF stated that guidelines should ensure the high medical quality of IVF facilities and personnel and that, in principle, IVF should only be offered to married couples using their own sperm and eggs. Exceptions are possible only after approval by a commission established by the German Medical Association (44). Since the publication of the Benda Report, the German Medical Association's statements have tended to be more restrictive, insisting that IVF be strictly limited to married couples using their own gametes (67). Guidelines concerning the conditions under which IVF and embryo transfer should be carried out have also been issued by the organization (18,24).

The Benda Report recommended that legislation be enacted restricting the use of IVF techniques to medical establishments that satisfy certain safety requirements to be specified by law. Although it considered nationwide legislation desirable, it recognized that the federal legislature may not have the constitutional authority to pass the legislative measures called for, and thus they recommended to the representative body of the German states (the Lander) that they work out regulations free of inconsistencies. The medical profession opposes legislation, insisting on the sufficiency of self-regulation (67,103,104).

According to the Benda Report, the genetic parents of an embryo created in vitro have a limited right to determine the use or disposal of the embryo. If, in the course of treatment, embryos are created that cannot, for whatever reason, be transferred, a mother cannot be forced to allow implantation into another woman to ensure that the embryo develops. Embryo donation is only justified when it is voluntary, it allows an embryo to develop, and a married couple is willing to accept the child as their own.

The Benda Report also approved IVF using the husband's sperm as a means of treating sterility. IVF should in principle be offered only to married couples. Only

in exceptional cases should cohabiting couples be offered IVF, and the procedure should not be offered to single persons. The resulting child, if the procedure were allowed in these cases, would be illegitimate. A child resulting from embryo donation to a married couple is legitimate under the section of the German Civil Code that states that a child born in the course of a marriage is always regarded as legitimate, although the law at present makes no special provision in this case. The question of the right to dispute legitimacy is particularly complicated in the case of embryo donation, as both parents might have grounds for dispute.

The federal-state working group recommended that IVF be available to married couples using their own gametes and only when medically indicated. The physician must perform a comprehensive medical and psychological exam, which must be documented. Doctors should only fertilize as many eggs as can be transferred at that time, and donation of superfluous IVF embryos or embryos flushed from a woman's body should be forbidden. Finally, the report addresses gamete intrafallopian transfer, stating that it should be subject to the same regulations as IVF (48).

Freezing and Storage of Human Sperm, Oocytes, and Embryos

Freezing embryos and sperm troubled members of the Benda Commission, who feared that a person conceived by such techniques might become confused about his or her identity; family relationships, for example, might be confused if gametes are frozen for an extended period of time and then allowed to develop.

Thus the Benda Report states that cryopreservation of human embryos can only be considered when embryo transfer is not possible for some time and cryopreservation provides an opportunity for transfer within the next 2 years, or when the embryo is to be transferred during one of the woman's following cycles in order to improve the embryo's prospect of implantation. The German Medical Association similarly states in its guidelines that cryopreservation for a limited time is permitted if it improves the embryo's chances for implantation or represents a temporary measure until another opportunity for transfer arises (24).

The federal-state working group recommended that the cryopreservation of sperm and oocytes occur only in officially regulated facilities and be limited to 2 years. The freezing of embryos and fertilized eggs should be forbidden except when the woman's condition does not permit transfer at the time and she desires cryopreservation (48).

Research on Preimplantation Embryos

The majority view presented in the Benda Report stated that, as a matter of principle, creating human embryos for research, without intending to implant them, cannot be justified. Experiments with human embryos are justifiable only if they assist in diagnosing, preventing, or curing a disease that the embryo in question is suffering from or if they "help to obtain specific medical findings of great value" and are reviewed by both a local and a central ethics committee (50). Consistent with this was the 1985 German Medical Association resolution stating that "embryos produced in vitro must, on principle, be implanted as part of the particular infertility treatment being carried out, Experiments with embryos must, on principle, be rejected insofar as they do not serve the improvement of clinical method or the well-being of the child" (24).

Embryo research was also identified in the joint Ministry of Justice and Ministry of Research and Technology report as harmful to human dignity (50,103), and the Ministry of Justice followed up on the report by drafting restrictive legislation (49). The Ministry of Justice draft proposed penalties of up to 5 years imprisonment for engaging in embryo research without permission of the genetic parents, especially if severe damage or loss of embryos ensues. Also penalized would be performing IVF without an intent to implant the resulting embryos, maintaining in vitro embryos beyond the normal point of implantation, artificially maintaining nonviable embryos, creating chimeras, or cloning (49, 103). Resistance to this particular proposal has been vehement, particularly from the German Medical Association and research funding organizations (57,67,103). Commentators note the inconsistency between German law allowing abortion during the first trimester and the near total ban on embryo research during that same period (103).

The federal-state working group report, published after the draft legislation, also stated that creating embryos or fertilized eggs for research purposes should be a criminal offense. Research on superfluous embryos should be forbidden, as should altering the genetic makeup of an individual, splitting embryos, creating chimeras or hybrids, and cloning (48).

Surrogate Mothers

Any commitment a woman makes to carry a child for another couple is legally unenforceable in Germany. Two German courts dealt with surrogate contracts in 1985. One determined that the child's custody could not be supplanted by a prebirth agreement by the

mother to give up custody, and the other ruled that the contract was void (47).

The Benda Report opposed any form of surrogacy, and furthermore interpreted surrogacy as unconstitutional, as it fails to respect the dignity of the child. Participants at the 1985 convention of physicians also opposed any form of surrogacy, stating in a resolution that "in view of the possible disadvantages for the child, and given the danger of in vitro fertilization and embryo transfer being commercialized, recourse to the services of 'surrogate mothers' must be rejected" (5o).

The national legal organization recommended in 1986 that ordinary surrogacy, i .e., where the surrogate is the genetic and gestational mother of the child, is not inherently immoral, but that the legislature nevertheless could and should outlaw the practice (42). With regard to gestational surrogacy, the association went further, stating "it does not take into account that the development in the uterus is part of the personal development of the child and violates the human dignity of the female who has been made an instrument . . ." (104).

The federal-state working group recommended in 1987 that medical participation in surrogacy be forid - den, that contracts for surrogacy be unenforceable, and that commercial surrogacy and advertisement be forbidden (48).

Recently, a US. commercial surrogate motherhood agency opened an office in Frankfurt to match West Germans with American surrogates. The magistrate of Frankfurt announced that the agency must be closed, if necessary by compulsory measures, but the agency refused (132). The conflict went to the courts, and in early 1988 a West German state court ruled that the agency must close as it violated West Germany's adoption laws (6).

France

The French national debate on the use of noncoital reproductive technologies is still quite lively. In 1986, the Comite' Consultatif National d'Ethique (CCNE) held public hearings in Paris and Lyons (34), to follow up on its previous work (33). The CCNE has no legal authority. Its initial purpose was to pave the way for subsequent legislation, but nothing has followed thus far (71). The Ministry of Justice prepared a 30-country review of regulatory and ethical developments with respect to all forms of medically assisted reproduction (24), and the Conseil d'Etat is preparing a report to the Prime Minister dealing with the need for statutes in this field (23).

Since 1978, the French Public Health Code has provided regulations requiring the funding of artificial insemination and IVF by the National Health Service (23).

Artificial Insemination

Ninety percent of artificial insemination by donor recipients in France order their sperm from one of France's 23 sperm banks, called the centers for the study and preservation of semen (CECOS). Policies governing artificial insemination by donor are thus mostly designed by the physicians running CECOS after a discussion in a CECOS National Commission, and the restrictions are quite rigid. Other institutions and private practices have more flexible rules (89).

The CECOS have developed an artificial insemination by donor program with the Statistical Research Unit of the National Institute of Health and Medical Research (INSERM). The established regulations require that sperm donors be married and of proven fertility and that the donor's wife give her permission for the procedure. Donors are screened for sexually transmitted diseases (including acquired immunodeficiency syndrome) and genetic problems, and karyotypes are routinely performed. Semen is provided only to stable couples, and only if the male partner is sterile or carries a hereditary disorder (2). Donors are anonymous and unpaid, and donor semen is available at no cost to infertile couples in France.

In one case regarding artificial insemination by husband, a French widow was successful in her suit to obtain her late husband's sperm in order to bear his posthumous child. Her attorney argued that "a deceased man has the right to breath life into the womb of his wife and prove that love is stronger than death" (74). The court did not consider the sperm as property. Its reasoning was based on the fact that the widow proved that her husband stored his sperm with the strong desire to beget a child by her (23).

In Vitro Fertilization

Over 100 IVF centers existed in France as of December 1985 (2). Quality of practice, restrictions on eligibility, and profitability vary enormously. Only a certain number follow the suggestions of CCNE, which recommended that centers be nonprofit and that a central organization be designed to pass on questions of gamete donation. However, legislation has been introduced that would restrict IVF to a limited number of centers that will be licensed only if they conform to strict technical requirements (53). Although IVF does not usually require egg or embryo donations, a few large and experienced centers do provide this service

(46). The CCNE recommended that legal rules be developed before embryo donation be allowed (22). An independent society named FIV-NAT has been created to centralize data concerning IVF (32).

Freezing and Storage of Human Sperm and Embryos

From the beginning, the CECOS have always frozen sperm because insemination is done outside the hospitals by a local gynecologist. CCNE considers embryo freezing an experimental procedure that should be performed only under strict conditions (for example, the first implantation should occur after no longer than 6 months and excess embryos should not be kept more than 1 year) (23), but the majority of CECOS do perform embryo freezing. Cryopreservation is now being performed in many centers not related to the CECOS as well (32).

Research on Preimplantation Embryos

After CCNE was created in 1983, it established several working groups that published reports on issues related to noncoital reproductive techniques. In 1986, CCNE published a long report on the ethical acceptability of research on human embryos, recommending that embryos not be created for research purposes, that IVF be carried out only in centers approved by public authorities, and that research aimed at making a genetic diagnosis prior to implantation undergo a 3-year moratorium (34,46). In spite of the dissenting opinion of some members, CCNE did not forbid all research on in vitro embryos, provided that embryos are not kept beyond 7 days. Furthermore, the committee did not forbid the use of surplus embryos for research (23).

Surrogate Mothers

Surrogacy contracts appear to be unenforceable because of a French adoption law prohibiting baby-selling. In addition, under French law, agencies and individuals who use the agencies' services to effect surrogate parenting arrangements are subject to prosecution. The Ministry of Health dissolved the three agencies facilitating commercial surrogacy agreements and they are now illegal (32).

Israel

General laws in Israel are secular and are legislated by the Knesset (the Israeli Parliament); matters concerning marriage, divorce, paternity, legitimacy, and bastardy are adjudicated according to the Jewish religious laws as determined by the Rabbinical courts. The practice of the new reproductive technologies thus must be supported by religious authorities (106). Although large sectors of the Israeli population will be guided by religious laws concerning the new reproductive technologies, this section will deal exclusively with the Government regulations. Religious views concerning these technologies, which sometimes differ from but do not necessarily conflict with secular laws, are covered in appendix F.

In 1980, the Director General of the Ministry of Health promulgated Public Health Regulations (Human Experimentation), 1980, in an effort to devise a supervisory mechanism in the field of biomedical research involving human subjects. These regulations state that medical experiments on humans, may only be conducted in a hospital if authorized by the Director General and if in accord with the provisions of the Regulations and of the Helsinki Declaration on Human Rights. Before the Director General can authorize a medical experiment involving humans, it must be approved by what in Israel is called a Helsinki Committee, and the Director General must obtain an opinion from the Drugs and Food Administration of the Ministry of Health or from the Supreme Helsinki Committee for Medical Experiments on Humans. One of the areas for which the Supreme Helsinki Committee is responsible is experiments involving the artificial fertilization of a woman (108),

From 1981 to 1987 the Knesset did not enact legislation to deal with many matters concerned with artificial reproduction (106). However, the Ministry of Health attempted to regulate these issues by means of secondary legislation. The Director General of the Ministry of Health sent a circular to all hospital directors spelling out rules for the regulation of sperm banks and artificial insemination. The legal authority for promulgating this secondary legislation was tenuous (110). In 1986 the Ministry of Health published draft regulations dealing with various aspects of artificial reproduction, The Supreme Helsinki Committee discussed these regulations a month later, offering several revisions. The draft was revised and the formal declaration of the regulations was made in 1987 (109).

In 1987, the Knesset approved the Ministry of Health's new Public Health (Extracorporeal Fertilization) Regulations (60), which adopted the 1979 regulations on artificial insemination, and adopted new regulations concerning IVF and ovum donation. The 1987 regulations continue to ban surrogacy in any form.

Artificial Insemination

The Ministry of Health regulations pertaining to artificial insemination by donor were signed in 1979 and readopted under the 1987 regulations. They state that

artificial insemination by donor may only be performed by a licensed obstetrician or gynecologist after examination of both the wife and the husband, (72).

According to the regulations, only a doctor may choose the sperm to be used in donor insemination. The blood type of the donor must have the same Rh factor as that of the husband, and the number of times that a donor may donate sperm is limited (72). The donor must have a medical examination and be free of certain ailments and of exposure to the human immunodeficiency virus (107,109). Mixing of the donor's sperm and the husband's sperm is to be done as much as possible (108), and Regulation 15 states that the donor shall remain anonymous (60).

The regulations dictate that strict records must be kept of both the sperm donor (to regulate how many times one man donates) and the sperm itself (to record specifics such as blood type, skin color, hair color, and Rh factor, but not the personal identity of the donor). However, access to these records in sperm banks is strictly limited, and the identity of the donor and of the wife and husband may not be revealed to anyone, including the parties themselves. The written consent of both the husband and the wife are required (108).

The regulations also state that the sperm donor is required to give his written consent to the use of his sperm for the purpose of artificial insemination. Presumably in doing so he gives up all rights and duties to the child. The regulations further state that the husband should declare that the child will be considered his own natural child for all purposes (108).

In Jewish law, there is controversy over whether a child conceived by donor insemination is illegitimate. Secular law does not directly address the issue of legitimacy, but as a secular system will probably consider the welfare of the child to be the most important consideration, a child conceived by donor insemination is probably considered legitimate (110).

[n 1979, the Israeli Supreme Court had its first encounter with artificial insemination when a man refused to pay support for a child born to his wife after donor insemination. The court dismissed his contention that he had not agreed to the artificial insemination, and thus ruled that he must pay, whether divorced or not. Because the Supreme Court recognized the agreement, it may be assumed that it does not condemn artificial insemination by donor, at least when a woman is married and her husband consents (110).

Oocyte Donation

The Supreme Helsinki Committee and the regulations of the Ministry of Health both state that ova may be recovered for purposes of donation only from women themselves undergoing infertility treatment and during the course of such treatment. In other words, women may not undergo the invasive procedure necessary to retrieve eggs simply for the purpose of donating them to another or for donating them to a laboratory (60). The Supreme Helsinki Committee recommends that an egg donor should be limited to donating to one recipient (108), and, as with sperm donation, the egg donor should remain anonymous, with all her rights and obligations to the child cut off under Regulation 15. Oocyte cryopreservation is permitted, and post-mortem donation of an egg is permitted if the genetic mother was single and if she left written evidence of permission.

Only married women intending to raise the resulting child may accept donated eggs, thus ruling out gestational surrogacy. The recipient also may not be related to the egg donor. Related, under Regulation 12, includes parent, child, grandparent, sibling, aunt, or first cousin. women accepting a donated egg must use their husband's sperm for fertilization, as contrasted with those receiving IVF using their own eggs, in which case donor sperm may be substituted. The net result is that a couple cannot gestate and rear a child to whom neither parent is genetically related. Upon birth of the child, the recipient of a donated ovum must take steps to formally adopt the child, thus implying that under Israeli law, maternity will follow the paternity model, and will be based upon genetic rather than gestational connection.

The Ministry of Health regulations recommend that a woman only receive an ovum from someone of the same national origin. This restriction derives from the traditional Jewish religious law that states that a Jew. is someone born to a Jewish mother. Recognizing that a child resulting from the implantation of a n ovum from a non-Jewish woman in a Jewish woman could create considerable inconvenience for the child, who might not be considered Jewish, the regulations suggest that ovum donation not be made across religious or national differences, but do not prohibit the practice (108).

In Vitro Fertilization

Regulation 4 permits IVF only if a woman is infertile and her physician recommends the procedure (107, 109). Regulation 8 further states that single women may be eligible for IVF, provided that a social worker certifies that the woman is psychologically and economically capable of raising a child (60). Retrieval and donation of ova and freezing and implantation of fertilized eggs are permitted only in a hospital authorized by the Director General of the Health Ministry to carry out these procedures. Authorization is granted

after inspection for the adequacy of personnel, clinical and laboratory equipment, recordkeeping, and attent ion to ethical problems, and authorization may be revoked if the standards do not continue to be met.

Both members of the couple undergoing IVF (or the woman, if she is single) must give written consent to the procedure. Donor sperm may be used, provided that the woman is using her own egg. Single women must use their own eggs, as egg donation to single women is not permitted.

Freezing of fertilized eggs is permitted, but is limited to a period of 5 years, unless special consent is obtained to extend that period to 10 years (60,107,109). A frozen fertilized ovum may not be implanted in a woman in the following instances: if the woman is divorced and the egg was fertilized by her former hus - band's sperm, unless the latter consents to the implantation; if hot h genetic parents are dead; or if the woman is a widow, except when a year has already elapsed since her husband's death and a written report has been made by a hospital's social worker that the widow is psychologically and economical}' capable of raising a child (60). No use maybe made of a frozen fertilized egg if its genetic mother has died.

Research on Preimplantation Embryos

The 1987 regulations permit egg retrieval only for the purpose of fertilization and implantation. This may operate as a ban on experimentation with embryos, as no embryo may be deliberately formed for the purpose of experimentation. It is not clear, however, whether the genetic parents of a frozen embryo may donate it to a laboratory for experimentation purposes if they no longer wish to try implantation and gestation for themselves.

Surrogate Mothers

After the practice of IVF became established and egg donation received a qualified endorsement, the Supreme Helsinki Committee was asked to approve IVF with subsequent embryo transfer to a "host ," or gesta - tional, mother. However, the Committee dismissed surrogacy. The regulations of the Ministry of Health also ban implantation of a fertilized egg in a woman not planning to be the child's mother (60).

After studying the issue of surrogacy for a considerable amount of time, the Health Minister and Attorney Genera] decided to publish regulations that would outlaw the practice of surrogacy in Israel (4).

South Africa

In 1986, pursuant to the Human Tissues Act of 1983 and the recommendations of a working committee (113), South Africa's Department of National Health and Population Development issued regulations governing the physician licensing and gamete donation associated with IVF and artificial insemination (112).

Artificial Insemination

The 1986 regulations specify that artificial insemination by donor may only be performed by a physician who has been registered and approved by the Director General of the Department of National Health and Population Development. Physicians must maintain detailed records of each donor and recipient, of the transfer of gametes, and of the health of the children born by donor insemination. These records form the basis of an annual report to the Director-General, who maintains a central registry of gamete donation, and help to ensure strict compliance with the limit of five children per donor. If the physician does not attend the birth of the child, the mother must within 30 days of the birth report on the health of the child. Any evidence of a hereditary disorder must be fol - lowed by an inquiry into the mother's and donor's genetic health.

The regulations require that a donor be screened for sexually transmitted diseases, fertility, and general health. The records maintained, to which the recipient may have access, note the donor's age, height, weight, eye and hair color, complexion, "population group," nationality, religion, occupation, education, and interests. The donor's spouse must agree to the use of his sperm for donor insemination, and the donor may limit the use of his sperm to recipients of specified religion and population groups.

Donor insemination is available only to married women. Recipients are screened for all of the same conditions as the donor, as well as to ensure that they are "biologically, physically, socially, and mentally suited for artificial insemination. " Records are maintained with "particular reference to possible genetic conditions and mental disorders. " Recipients and their husbands must be advised by the physician of the psychological and legal risks of donor insemination, and must receive counseling if the recipient appears to be a carrier for any heritable disorders.

The 1986 regulations do not address the legal status of the resulting child. In 1979 a South African court

ruled that a child conceived by donor insemination was illegitimate. The judge, however, did not declare the procedure unlawful or ethically undesirable, and urged the legislature to legitimize children conceived by donor insemination (118).

Oocyte Donation

Oocyte donation is allowed in South Africa, and screening of the donor and recipients is subject to precisely the same provisions as screening for donor insemination.

In Vitro Fertilization

The 1986 regulations do not address IVF except with regard to licensing physicians and regulating the use of donor gametes. The working committee did, however, consider a number of additional points. Most members of the working committee whose recommendations formed the basis of the 1986 regulations had no fundamental objections to IVF. They approved IVF with the gametes of the infertile couple as well as with donor gametes or donor embryos.

According to the 1986 regulations, IVF may only be performed on licensed premises by registered gynecologists and these facilities must be centralized and their number restricted. Later implantation for the same couple was acceptable to the majority of the committee and, as far as is known, to the majority of the community as well. The committee stated that embryos may be donated to other infertile couples only if the second infertile couple cannot overcome the infertility in any other way or may transmit serious hereditary disorders. Donated gametes may not be used unless each donor has given explicit written consent for the use of their gametes to form an embryo. When an embryo has been donated, it must be used for the selected participants.

Research on Preimplantation Embryos

The committee stated that research on preimplantation embryos should be allowed under strict conditions approved by the responsible research controlling body for a period up to 14 days after fertilization. The committee further concluded that embryo flushing is still an experimental procedure and thus it should not at present be part of an IVF program.

Freezing and Storage of Human Sperm, Oocytes, and Embryos

The committee recognized the benefits of embryo freezing for an IVF program, and suggested that the participants in the program should be able to indicate how they want excess embryos handled. Freezing and storage of human embryos is allowed with the consent of the participants of the IVF program or the donors of the gametes used to form the embryo. A bank of frozen embryos is not to be allowed; each frozen embryo must be retained for participants, and if donated must be used for the selected participants.

Donors must consent to freezing and storage of an embryo formed from their gametes. Furthermore, donors may decide the manner in which a stored embryo is to be used—whether it is to be donated to other participants in the IVF program, whether it can be made available for research, or whether storage is to cease. Conditions governing use of the embryos shall be incorporated as part of the consent document.

Surrogate Mothers

The working committee considered commercial surrogacy ethically unacceptable. It stated that surrogacy contracts are unenforceable and that volunteer surrogacy should not be included in the IVF program, The medical profession in South Africa also opposes surrogate motherhood. The Medical Association of South Africa declared it "undesirable)" and the head of the country's leading IVF laboratory has also expressed disapproval (16).

One unusual surrogate motherhood case has drawn international attention to South Africa. In 1987, a 48-year-old grandmother bore triplets conceived in vitro from her daughter's ova and her son-in-law's sperm (45). Experts disagree on the legal status of the children; one law professor said that the daughter might have to adopt the children to protect her rights, while another claimed that since the surrogacy was not part of a commercial arrangement there should be no legal problems for the family. A third stated that under common law the children will be legitimate, as they were conceived with the gametes of a married couple (16).

Sweden

In 1981, the Swedish Government formed a committee that is currently investigating most of the issues surrounding noncoital reproductive techniques, The Insemination Committee has published two reports, one in 1983 concerning artificial insemination (121) and one in 1985 concerning IVF and surrogate motherhood (122). Some of the recommendations of the 1983 report became law in March 1985.

Artificial Insemination

Artificial insemination, both by husband and by donor, has been carried out in Sweden since the 1920s.

In 1983, the Government committee published *Children Conceived by Artificial Insemination.* This report stated that there is "no specific protection for the AID [artificial insemination by donor] child, judicially or in any other respect" (121). The committee's general point of departure was therefore "that the needs and interests of the prospective child be satisfied and safeguarded in a satisfactory way." The committee found "strong reasons in favor of drawing parallels between adoption and AID" (121).

These recommendations resulted in a 1985 artificial insemination law (119). According to this law only women married or cohabiting with a man under circumstances of marital character should be allowed insemination treatment; insemination requires a written consent by the husband or cohabitant, who will, by this act, be regarded as the legal father of the child born following the treatment; artificial insemination by donor should only be undertaken in general hospitals under the supervision of a physician specialized in obstetrics and gynecology, and the sperm donor should be chosen by the physician; information about the donor of sperm should be kept in a special hospital record for at least 70 years; when a child conceived by donor insemination is mature enough, he or she has a right to obtain information about the identity of the natural father, information that is kept in the special hospital record; and, when requested, the public welfare committee is duty bound to assist the child in retrieving this information (119). The question of contact between the donor and child is not regulated. The National Board of Health and Welfare has stated that such contacts sometimes can be of great value to the child, but must be voluntary on all sides. The parents are not obligated to tell the child of the use of donor insemination for his or her conception, but are encouraged by the board to do so (58,66).

The physician performing artificial insemination by donor should examine the suitability of the technique with respect to the medical, psychological, and social circumstances of the prospective parents. Finally, the insemination should only be undertaken if the circumstances of the prospective parents are of a character enabling the child to grow up under favorable conditions (119).

Oocyte Donation

The Government committee recommended that egg donation be prohibited in Sweden (122).

In Vitro Fertilization

IVF is not regulated in Sweden, although legislative work is in progress (73). The Government committee proposed that IVF treatment be restricted to women married or cohabiting under marital circumstances, that the implantation of the fertilized egg requires a written consent by the husband or cohabitant, and that without the permission of the National Board of Health and Welfare, IVF may only be undertaken in general hospitals. Regarding donor gametes in IVF, the committee further suggested that an in vitro fertilized egg should only be implanted in the woman from whom the ovum was recovered and that the egg should only be fertilized by the semen of the husband or cohabitant (122).

Research on Preimplantation Embryos

In 1982 the Swedish Government appointed a different committee to study the ethical, humanitarian, and social issues arising from the use of genetic engineering. The Committee on Genetic Integrity published a report, *Genetisk Integritet* (Genetic Integrity), in 1984 (120). It did not propose a limit on human embryo experimentation but instead suggested a number of ethical norms to be followed. Regarding research on embryos, the committee recommended that "research and experiments on zygots and embryos are acceptable provided they are medically well-founded, that they are performed within 14 days after fertilization (freezing time not counted), and that the donor of eggs and sperm has given her/his free and informed consent" and that "human zygots and embryos exposed to experiments must not be implanted and developed *in vivo" (120).* They further recommended that any experiments proposing to violate these guidelines must come under severe ethical examination. Legislative work on this issue has not been completed (73).

Surrogate Mothers

The Insemination Committee regarded surrogate motherhood as indefensible due to the risk of children becoming objects of financial bargaining. The procedure would require extensive changes within the legal system, which the committee saw no reason to consider (122).

United Kingdom

In 1984, the Government-sponsored Warnock Committee (named after its chairperson, Dame Mary Warnock) made 63 specific recommendations concerning noncoital reproductive techniques and reproductive research (125). The Warnock report has been influential in the United Kingdom and elsewhere, as it was one of the first national committees to address the ethical, legal, and social implications of the new reproductive technologies (64). The ethical and social delibera-

tions have been discussed in chapter 11; this section covers the legal issues.

The Government's first response to the Warnock Report was to introduce legislation in 1985 banning commercial surrogacy. Regarding other issues surrounding infertility treatment, the Government decided further consultation was needed. Thus, in 1986, the Department of Health and Social Security released a Consultation Paper, *Legislation on Human Infertility Services and Embryo Research (126).* The document encouraged further discussion on the following questions: the need for a statutory licensing authority for infertility treatment, the need to counsel infertile couples, the legal status of children resulting from techniques that use donated gametes, the definition of mother and father in cases of egg or embryo donation, the enforceability of surrogacy contracts, storage and disposal of human embryos, and research on human embryos (126).

The consultation period ended in June 1987, and in November 1987 the Government issued a White Paper that should be the basis for future regulation (127). The proposals generally followed the recommendations of the report, unless otherwise noted. The most notable deviation is the presence of alternative clauses on embryo research; the Government is leaving this decision to free vote by the Members of Parliament.

The Warnock Committee recommended that a statutory licensing authority be established to regulate certain infertility services and related research. As an interim measure, the Medical Research Council and the Royal College of obstetricians and Gynecologists formed a Voluntary Licencing Authority (VLA) to regulate the clinical practice of IVF and embryology. The guidelines published in the VLA'S first two reports are consistent with the recommendations made by the Warnock Committee (130,131). The Government's White Paper of 1987 then proposed a Statutory Licencing Authority (SLA) that would oversee the following areas: any treatment (or research, if approved) involving human embryos created in vitro or taken from the womb of a woman (e.g., by lavage); treatments involving donated gametes or donated embryos; the storage of human gametes or embryos for later use (by cryopreservation); and the use of diagnostic tests involving fertilization of an animal ovum by human sperm. The SLA will be responsible, among other items, for licensing and collecting data on facilities offering these techniques. The White Paper states that the use of these techniques without the appropriate license is a criminal offense.

Artificial Insemination

Section 27 of the Family Law Reform Act 1987 follows the Warnock recommendation that a child conceived with donor semen is the legitimate child of the mother and her husband, provided both have consented to the procedure. The White Paper states that legislation will establish that the sperm donor will have no parental rights or duties to the child.

The White Paper proposes that the SLA keep a central record of all gamete and embryo donations and births resulting from these donations. All adults over the age of 18 conceived by gamete or embryo donation should have a legal right to find out how they were conceived and to obtain certain nonidentifying information about the donor. The Government plans to construct the bill so that this provision can be amended and the possibility of granting access to identifying information remain open. This measure would be made retroactive,

Although the White Paper recognized that limiting the number of donations from any one donor is desirable, it did not propose stating a limit within future legislation. Instead, it proposed that the SLA set and regulate this limit. It also stated that the SLA will be responsible for making sure that any financial transactions are for the recovery of reasonable costs only.

Oocyte Donation

The White Paper proposes that the provisions of section 27 of the Family Law Reform Act 1987 be extended to children born following egg and embryo donation, so that any child born to a couple using donated gametes or a donated embryo be considered the legitimate child of that couple, provided the husband and wife both consented. The White Paper also states that legislation will make clear that where a child is conceived with donated gametes or embryos, the birth mother shall be regarded in law as the child's mother. Furthermore, the donor(s) will have no parental rights or duties to the child.

In Vitro Fertilization

The Warnock Committee proposed that IVF be available to all couples, whether married or not, but the Government White Paper did not specifically mention whether marriage should be a prerequisite, According to the White Paper, artificial insemination by husband or by donor, egg donation, and embryo donation in conjunction with IVF should continue to be available, subject to the recommended licensing and inspection. The Warnock Committee did not recommend the use of embryo donation by lavage because the technique was not known to be safe, and the White Paper fails to specifically mention this technique.

The guidelines published in the VLA report state that clinical and research facilities carrying out IVF must have access to an ethics committee, keep detailed

records, and have appropriately trained staff. No more than three embryos, or four in exceptional circumstances, should be transferred to a woman (129). The VLA visited IVF centers and evaluated them; 30 IVF clinics had been approved and licensed by the VLA as of 1987 (131).

The proposed SLA will similarly oversee facilities offering the regulated infertility treatments. The White Paper states that the SLA will ensure there is adequate staffing, quality facilities, recordkeeping, screening and assessment procedures, and arrangements for storage and disposal of gametes and embryos.

Freezing and Storage of Human Sperm, Oocytes, and Embryos

Although the Warnock Committee considered freezing sperm acceptable, it stated that freezing oocytes would be acceptable only if the technology improved. Embryo cryopreservation was considered acceptable as an experimental technique.

The White Paper stated that cryopreservation of human gametes and embryos should be permitted, but only under license from the SLA and subject to certain conditions regarding maximum storage times. According to the Government, gametes may be stored for a maximum of 10 years, while embryos may be stored for a maximum of 5 years.

The White Paper also states that storage of gametes and embryos can only take place with the written consent of donors. The donor's wishes should be followed during the period during which embryos or gametes may be stored; when this period expires, they may be used by the licensed storage facility for other purposes only if the donor gave consent for such use. Concerning embryos, all possible uses (implantation into another women, research, destruction) must be approved by both donors. If disagreement exists, the embryo must be left in storage until the end of the storage period, then discarded.

Research on Preimplantation Embryos

The majority of the Warnock Committee members recommended that research on embryos be allowed for up to 14 days after fertilization but only under license, and whenever possible with the informed consent of the couple from whom the embryo was generated. (Nine of the sixteen members recommended this course of action; three were opposed to all experimentation on embryos; and four were opposed to experimentation on embryos created solely for the purpose of research.) The current VLA guidelines follow the committee's suggestions, allowing research on embryos up to 14 days with the consent of both donors only if the information needed cannot be obtained by research on other species.

There has been considerable controversy in the United Kingdom concerning embryo research. Three bills were introduced by members of Parliament to ban such research, all of which have been defeated. The British Medical Association, the Royal College of Obstetricians and Gynecologists, and the Medical Research Council all favor carefully regulated research on early embryos (55).

The Government White Paper did not follow the recommendations of the Warnock Committee on this issue; it proposed alternative draft clauses to be voted on by Members of Parliament. One clause forbids any research on human embryos not aimed at preparing the embryo for transfer to the uterus of a woman; the other permits any project specifically licensed by the SLA. Regardless of which clause is used, any genetic manipulation of the embryo, creation of hybrids, or trans-species fertilization (except when fertilization of the egg of another species with human sperm is used for diagnosis of subfertility) is forbidden.

Surrogate Mothers

The recommendations of the Warnock Committee to forbid surrogacy agencies led to the passage of the Surrogacy Arrangements Act in 1985, which banned commercial surrogacy in the United Kingdom. The act has accomplished the purpose of suppressing surrogacy agencies; such arrangements will likely continue to occur, however, as surrogates and commissioning parents are exempt from criminal liability, and private surrogacy arrangements are not prohibited.

The White Paper decided against licensing noncommercial surrogacy services and emphasized that any contract drawn up as part of a surrogacy arrangement will be unenforceable in the United Kingdom courts.

OTHER NATIONAL EFFORTS REGARDING NONCOITAL REPRODUCTION

Argentina

Five centers for infertility treatment in Argentina offer artificial insemination, IVF, and gamete intrafallopian transfer. None of these procedures is currently regulated by law, but legislators are examining the relevant issues (76).

Infertility treatment is covered by health insurance and is offered throughout the country in specialized hospitals; however, artificial insemination must be paid for by the patient. Ethics committees function in some of these hospitals (76).

Austria

In 1986, two studies were published in Austria, one a national enquiry on family policy and the new reproductive technologies and the other a report of the Ministry of Science and Research on the fundamental aspects of genetics and reproductive biology (13). The Department of Justice is now preparing a bill that will regulate artificial procreation; of particular interest, it will allow posthumous insemination and surrogacy (23).

Artificial Insemination

Infertility treatment and artificial insemination are not currently regulated in Austria. Artificial insemination is not offered widely throughout the country, although some specialized hospitals and private physicians provide it. Infertility treatment in general is covered by health insurance but artificial insemination must be paid for by the patient (79).

The Ministry of Science and Research report recommended that donor sperm be used in artificial insemination and IVF only if the husband or partner is sterile and the woman and her husband or partner give informed consent to the procedure. If he has consented, the husband or partner cannot contest paternity, and the donor should have no legal rights to any resulting child.

The report recommended that the doctor be responsible for screening donors, keeping confidential records of the physical examination and the identity of the donor, and, if necessary, revealing medical facts to the recipients and the resulting children. These criteria should be applied to egg donation as well. Mixing sperm should be forbidden, and the use of frozen sperm by a widow should be allowed only within 10 months after her husband's death. Finally, no more than 10 conceptions should be allowed with any one donor's sperm.

In Vitro Fertilization

The Ministry of Science and Research report recommended that IVF only be used to ameliorate infertility after other treatments have failed, or when medical treatment is too risky or without hope. There must be reasonable hope for success, and precautions must be taken to ensure that there is no risk to the mother or child. The procedure should only be offered to couples who are married or in a stable relationship and who show that they would offer a satisfactory home for a child.

A couple can accept a donated egg or embryo if all other treatment possibilities have been exhausted, if the husband (or partner) agrees, if the egg has been fertilized in vivo or in vitro with the husband's sperm, and if the woman is younger than 45 years old. The report specified that doctors should not fertilize more eggs than they intend to transfer back to the woman; if more embryos are created, however, freezing them is allowed. Frozen embryos should be used by the couple from whom the gametes originated. If not, they can be donated. If no infertile couples need the embryos, then they may be used for research, provided the parents give permission. In no case should embryos be implanted after they have been frozen for 3 years.

Research on Preimplantation Embryos

The report states that research should be performed only on embryos that have no hope of implantation. Before the research commences, the researchers must show that medical progress can be made from this experimentation and must check with their local Institutional Review Board. Experimentation is expressly prohibited if the possibility for animal research is not exhausted; if the embryo is more than 14 days old; if the embryo is used for routine experiments; if researchers are attempting to create clones, chimeras, or human/animal hybrids; or if the point of the experiment is not to prevent or cure disease but to create humans with special characteristics.

Surrogate Mothers

Surrogate motherhood should not be allowed, according to the Ministry of Science and Research report.

Belgium

Currently artificial insemination by donor is dealt with mainly by the courts in Belgium, It can only be used for sterility or hereditary disease, payment of donors is not allowed, and the identity of the donor can only be revealed by court if necessary (24). The consent of the woman, her husband, and the donor is required. Absolute secrecy must be maintained. In 1987 a law was passed stating that a child born from artificial insemination by donor with the consent of the husband is legitimate and that the consenting husband cannot challenge paternity (23,35).

IVF is regularly practiced in the obstetrics departments of all medical schools and in a number of other centers (53). In 1987, the Government organized two colloquia dealing with reproductive techniques, one dealing mainly with judicial problems and the other with ethical and medical matters (23). Sharp differences between those who share the views of the Roman Catholic Church and others prevented these colloquia from reaching conclusions acceptable to a substantial,majority, although a report ***(Collogue Alational de Reflexion Scientifique)*** **was** presented to the Belgian Secretary on the ***State of Health and Bioethics in the*** **1990s (2 I).** This deadlock and the technological advances that constantly modify the practical problems encouraged governmental circles to postpone definite legislative proposals in this field (53).

Brazil

According to Brazil's 1957 Code of Medical Rules (Article 53), artificial insemination by donor is prohibited and artificial insemination by husband may be performed only with the consent of both spouses (24).

Bulgaria

Article 31 **of** Bulgaria's Family Code deals with artificial reproduction, It states that motherhood is determined through birth, regardless of the origin of the genetic material, and that the husband of a woman who undergoes artificial insemination by donor or accepts an oocyte donation cannot contest paternity if he consented to the procedure (24).

Chile

There is no specific legislation in Chile regarding noncoital reproduction. However, the Chilean Fertility Society and the Chilean Society of Obstetrics and Gynecology have developed guidelines concerning IVF. The two societies consider the procedure ethical if used for a married couple using their own gametes (37).

Colombia

Colombia's criminal code states that artificially inseminating a woman without her consent is a crime punishable by imprisonment (117).

Cyprus

There is no legal regulation of infertility treatment in Cyprus. The Government medical services provide limited facilities for infertility treatment but none for artificial insemination. Some private gynecologists offer artificial insemination at high costs (79).

Czechoslovakia

Czechoslovakian federal legislation (Family Law, Article 52-2, 1982) states that the consenting husband of a woman undergoing donor insemination may not contest paternity if the child was born between 6 and 10 months after artificial insemination was administered, unless it can be proved that the mother of the child became pregnant by means other than artificial insemination (24).

Two Czechoslovakian republics, the Czech Socialist republic and the Slovak Socialist republic, have passed legislation based on the 1982 federal legislation. They state that artificial insemination may be performed only when health reasons exist for such an intervention; that a medical examination must be performed on the parties involved; that written permission must be obtained for the procedure by both husband and wife; that donors must be healthy, without evident genetic defect; that the couple and donor may not learn each other's identities; and that all circumstances involved with artificial insemination must be kept confidential (24). The legislation does not explicitly state that the couple must be married, but in the legislation they are always referred to as husband and wife.

Denmark

Currently no regulations cover infertility treatment in Denmark, but artificial insemination by donor is performed only in public hospitals (79). In 1953 a Commission appointed by the Danish Ministry of Justice issued a report recommending a law on artificial insemination. No legislative action was taken in response. However, the report recommended that physicians performing donor insemination choose the donor and keep the identity of both the donor and the couple confidential, and these rules are generally followed in current practice (68). Oocyte donation and surrogate motherhood have not been accepted in Denmark (69).

A committee under the Danish Government published a report on *Ethical Problems with Egg Transplantation, AID and Research on Embryos* in 1984. The conclusion of this report was that legislation concerning these techniques was unnecessary but that a standing review and advisory ethics committee should supervise their use. This committee will begin to function in 1988 (69).

In 1987a law was passed forbidding all research on human embryos until a National Ethics Committee proposes guidelines for such research to Parliament (23).

Egypt

Artificial insemination by husband is allowed in Egypt, while artificial insemination by donor is not. One center offering artificial insemination by husband and IVF reports that these technologies are accepted on a social level in Egypt but are still resisted by some doctors. A number of other centers are developing slowly.

The use of IVF on infertile couples is permissible under Islam if the couple is married, the gametes come from the couple, and the embryo is implanted into the wife. Cryopreservation of sperm, oocytes, and embryos is not clearly addressed by religious authorities. Surrogate motherhood is forbidden by religious regulations (63).

Finland

There are no regulations specifically covering infertility treatment in Finland, but treatment is available from hospitals and the Finnish family planning agencies free of charge (79).

German Democratic Republic

Artificial insemination by donor and IVF are considered ethically acceptable in East Germany. Artificial insemination by donor is offered through special centers, following the written agreement of the infertile couple that any resulting child will be regarded as legitimate (79). oocyte and embryo donation are also accepted, with the informed consent of the genetic parents. The sale and purchase of human gametes or embryos is forbidden, as is surrogacy. The transfer of frozen embryos is discouraged until there is no risk involved in the procedure (137). However, there are no regulations governing infertility treatments.

Greece

There are five IVF centers and one frozen sperm bank in operation in Greece, and artificial insemination by donor has been practiced there for the last 23 years. Article 1 471/2-2 of Greek Civil Code, Law 1329, of February 1983, states that a husband who has consented to his wife undergoing artificial insemination by donor cannot disavow his paternity regarding the resulting child (24).

IVF, frozen and fresh sperm banks, surrogate mothering, and embryo freezing are all illegal in Greece. Thus, although these medical procedures are carried out, they are in essence being done illegally. The Greek Orthodox Church also opposes surrogate motherhood (78).

Hungary

Two pieces of legislation relate to infertility treatment in Hungary. Ordinance No. 12 of the Ministry of Health states that artificial insemination maybe carried out on any woman under 40 who resides in Hungary; is in full possession of her physical and mental faculties; and is unlikely, according to medical opinion, to conceive naturally. Artificial insemination is normally carried out using the husband's semen. The use of donor sperm may only be considered if insemination using the husband's semen is unlikely, according to medical opinion, to result in the birth of a healthy child. A donor must not be suffering from any hereditary disease, and physicians must observe strict confidentiality regarding the identity of the donor (24).

The National Institute of Obstetrics and Gynecology and the National Institute of Urology issued a circular pursuant to Ordinance No. 12. The circular states that potential sperm donors must be healthy, intelligent, and free of hereditary disease. Furthermore, potential donors must undergo the following tests: a genetic examination, determination of blood group and Rh factor, a psychological examination, and a test to detect the presence of sexually transmitted diseases. The physician carrying out the insemination and the personnel of the establishment in which it is carried out are required to keep the identity of the donor and the procedure confidential (117).

Article 38-1 of the Law on Marriage, Family, and the Care of Children (1974) states that except when the husband or partner of a woman undergoing artificial

insemination recognizes paternity of the resulting child, paternity can only be determined in court, However, the court cannot establish paternity when artificial insemination has been used. These provisions ensure that the sperm donor will have no rights or duties to the resulting child. The presumption of paternity can be contested if the husband can prove that he did not have sexual relations with the woman at the time of conception or if he did not consent to his spouse's artificial insemination (24).

Iceland

More than 50 children have been conceived by artificial insemination since 1979. Donor sperm comes from Denmark to avoid problems of consanguinity due to the small size of the population. Artificial insemination by donor is the only method of noncoital reproduction currently used in Iceland (24).

During the 1985/86 parliamentary session, Parliament passed a resolution asking the Ministry of Justice to form a study commission to look at the legal aspects of artificial insemination (24), as there currently is no legislation on any aspect of noncoital reproduction.

India

IVF is now officially encouraged as a treatment for infertility, despite India's overall objective of slowing population growth. The Indian Council for Medical Research first sanctioned IVF in 1983 and began a research program at the Institute for Research in Reproduction *in Bombay*. There is now considerable public interest in IVF. Many private clinics as well as Government-run facilities offer the procedure (62).

Ireland

Artificial insemination by donor and IVF are performed in Ireland. In 1985 the Medical Council of Ireland approved guidelines promulgated by the Institute of Obstetricians and Gynecologists. Therapeutic application of IVF is authorized provided the couple is married, no donor gametes are used, and all embryos created are placed into the woman undergoing the procedure. Experimentation on and freezing of embryos is considered unacceptable (23).

Italy

In 1984, the Minister of Health appointed the Commission Ministerale per una Specifica Normatica in Terma di Fecondazione Artificial Umana to study reproductive technologies. The resulting document, the Santosuosso Report (published in 1985), proposed two bills-one dealing with artificial insemination and the other with artificial insemination by donor, surrogacy, and other issues—and included two introductory essays (80).

No legislation has been passed as yet in response to the Santosuosso Report. The report proposed that artificial insemination by husband and donor be permitted, but be limited to married couples, and that donor insemination be available only when adoption is not granted within 6 months of application (136). In 1987, the Italian Government issued a regulation requiring that all donors undergo tests for hepatitis and sexually transmitted diseases. Furthermore, the Ministry of Health is preparing a registry listing all public and private centers where artificial insemination is practiced and plans to create a data bank on the results of the procedures (136).

IVF has been the subject of considerable discussion during the past several years in Italy. Six bills have been proposed, but none has been debated in Parliament (80). In 1984, a group of gynecologists and researchers in Italy made the following recommendations for the practice of IVF:

- IVF is justified only when other therapeutic techniques have been unsuccessful or have no possibility of success, or when alternative therapeutic techniques are too risky;
- the couple must be married and be adequately informed about the technique and related risks;
- embryos should be reimplanted, whenever possible;
- donor eggs and sperm are acceptable in principle, but IVF embryos should not be donated from one couple to another;
- research on embryos for commercial purposes should not be allowed;
- manipulation on the genotype of germ cells should not be allowed;
- IVF must be carried out under the direction of a physician in a facility authorized by the Ministry of Public Health; and
- a national ethics committee should be established to formulate guidelines (24).

Japan

Japanese attitudes concerning noncoital reproductive technologies are divided. Currently no law deals with any of the technologies, but various professional organizations have issued relevant guidelines (14), such as the 1985 guidelines issued by the Japanese Obstetrics and Gynecology Society (21).

Only one hospital offers artificial insemination by donor in Japan at the moment, and no sperm bank facilities exist. Sperm donors are paid, and they are usually medical students or others with some affiliation to the hospital. Estimates indicate that approximately 10,000 children have been born in Japan as a result of donor insemination (14). The medical profession in Japan preserves the anonymity of sperm donors; records are kept but no information is made available to recipients of sperm (14).

No law establishes the status of these children. However, many legal scholars have construed existing law to presume that the child of a married woman conceived by donor insemination is the legitimate child of her husband, provided the procedure is carried out according to current practice (14).

The first IVF baby in Japan was born in 1983, and currently about 30 institutions perform the procedure. The guidelines of the Japanese Obstetrics and Gynecological Society state that IVF must be limited to married couples. Oocyte donation and surrogate motherhood are not practiced in Japan (14).

The Japanese obstetrics and Gynecology Society has also recommended that a fertilized egg can be used for experimentation up to 14 days, with the consent of the donors (14).

Libya

Artificial insemination by donor is criminal in Libya. Libya's criminal code (articles 304A and B) states that anyone who artificially inseminates a woman by force, threat, or deceit is to be punished by imprisonment. Furthermore, a woman who consents to artificial insemination or who attempts to artificially inseminate herself is to be punished with imprisonment. The husband is also punished if the insemination took place with his consent. It is not clear if these prohibitions extend to artificial insemination with the husband's sperm (24).

Luxembourg

An official committee under the Director of the National Laboratory of Health has been charged with proposing guidelines for the use of medically assisted procreation. Its report was submitted to the Government in 1986 (24).

Mexico

There is no legislation regarding reproductive technology in Mexico, nor are there published reports studying the relevant issues. Infertility programs are available, however, for couples desiring to have children. Due to the expense involved with such programs, they are offered primarily by Government institutions. The procedures available are IVF and gamete intrafallopian transfer, using only gametes of the couple. Mexicans have not used donated gametes or surrogate mothers to date. Cryopreservation of embryos is currently available at one program (111).

Although there are no national regulations related to reproductive technologies, the Government institutes have adopted the declarations of the American Fertility Society and the Queen Victoria Medical Center from Melbourne, Australia, as a basis for self-regulation. To accept a couple for treatment, the institutions require that the woman be 20 to 35 years old; that ovulation occur; that the infertility be caused by a tubal factor, perineal factor, immunologic factor, or another kind of undetermined infertility; and that the couple have no more than one child already (111).

The Netherlands

All noncoital reproductive technologies are available in Holland, and research on the embryo is being discussed, In 1986, the independent Health Council of the Netherlands submitted a report on reproductive technologies to the Minister and State Secretary of Health (43). The report discusses the technical, psychosocial, and ethical aspects of noncoital reproduction, in particular artificial insemination by donor, IVF, egg donation, and surrogacy.

Artificial Insemination

The use of artificial insemination by donor is fairly common in the Netherlands, resulting in the birth of approximately 1,000 children per year (43). Holland's Civil Code denies the husband of a woman undergoing donor insemination the right to contest the paternity of any resulting child if he has consented to the procedure (24). General agreement exists that sperm donors have no responsibility for children resulting from their sperm (7o). A working group of the Association of Family and Youth recently recommended that legislation ensure this situation (43).

The Health Council of the Netherlands considered the use of donor insemination or IVF by a woman without a male partner acceptable in certain circumstances. It recommended that prospective sperm donors be screened for heightened genetic risks and infectious diseases, A sperm bank should only be allowed to reject a donor on these grounds. Only frozen sperm should be used, and sperm from different donors should not be mixed. The Council recommended that

children conceived by donor insemination be informed about their manner of conception and relevant genetic information but not about the identity of the donor. The number of inseminations allowed per donor should be limited. Finally, donors should not be paid for their sperm, only their travel expenses (99).

Oocyte Donation

The Health Council also considered noncommercial egg donation acceptable. They recommended that more detailed legislation is needed regarding the right of ownership of human egg and sperm cells. Recipients of donor eggs should also sign informed consent statements. Regarding donated gametes generally, the Council felt that parents should be encouraged to inform their children of the nature of their origin but should have the freedom to decide how and when to inform the child (99)

In Vitro Fertilization

IVF is available in the Netherlands. In 1985, however, the Minister of Health decided that for the time being IVF would not be covered routinely by the sickness funds, a public health insurance system that covers people whose yearly income is below fl. 50,000 (about $20,000) (43).

The Health Council report concluded that the results of IVF in relation to the costs have roughly come to match those of tubal surgery, so IVF should no longer be limited on medical grounds. IVF centers should be subject to certain requirements that would ensure high quality care and adequate ethical review. As with artificial insemination by donor, the couple undergoing treatment must give written informed consent, indicating at the same time what should be done with any excess embryos. Cryopreservation of embryos was also found acceptable, within certain time limits (99).

Research on Preimplantation Embryos

The Health Council stated that preimplantation embryos should be approved for research provided "that major interests of a large number of people are at stake; that the data could not be obtained by different means; that both partners have given their consent; and that the research proposal has been vetted and approved not just by the medical ethics committee of the hospital in question but also by a national committee" (99). Furthermore, they recommended that the legal status of the preimplantation embryo, the authority over the embryo by its genetic parents, and the functioning of embryo banks should be regulated by law. Selling embryos should be prohibited (99). No general agreement exists in the Netherlands concerning this research (70).

Surrogate Mothers

The Health Council considered noncommercial surrogacy arrangements acceptable for medical reasons only and stated that commercial surrogacy should be forbidden by law. Their report recommended that a Government-supervised body (resembling an adoption agency) should be responsible for supervising surrogate arrangements.

The Council proposed that in principle a surrogate mother should part with the child right after birth. However, the surrogate mother should be allowed to claim a 3-month period to reconsider the transaction. The "claim" should be made (and granted) prior to the child being given up. Once the child has been handed over to the adoptive parents, a claim should be considered invalid (99).

New Zealand

In 1985, the Law Reform Division of New Zealand's Department of Justice published a comprehensive issues paper specifically to encourage "informed public debate" on new developments in reproductive technology (87). Twenty-one months later the Division published an extensive summary of the submissions it had received (88).

New Zealanders hold a variety of opinions concerning these technologies, with no one view favored by a clear majority (41,88). There are religious objections to every procedure, feminist objections, strong advocacy views from infertility associations, and various intermediate positions.

In 1986 the Government introduced to Parliament a bill to amend the Status of Children Act 1969. The purpose of the bill was to clarify the legal status of children conceived through the use of donated sperm, donated ova, or donated embryos using the techniques of artificial insemination by donor, IVF, or gamete intrafallopian transfer. Not all these techniques are currently available in New Zealand. The bill, known as the Status of Children Amendment Act 1987, provides that the consenting husband of a woman receiving donor insemination is the legal father of the child. The husband's consent is presumed unless evidence indicates otherwise. When oocyte donation occurs, the birth mother is the child's legal mother. Sperm and ova donors lose all rights and responsibilities of parenthood. If the husband does not consent to the procedure or if the mother is single, the donor is the legal father, but he holds no rights or responsibilities regarding the child unless he marries the mother. The bill does not discuss a child's access to information about his or her genetic parentage because there is no statutory prohibition on the release of such information.

In 1986, the Minister of Justice set up a three-member committee to "monitor the issues associated with alternative methods of reproduction and to advise the government as required, " with one member each from the Ministry of Women's Affairs, the Department of Health, and the Department of Justice (loo).

Artificial Insemination

During the past 10 years, artificial insemination by donor has been performed at major centers in Auckland, Wellington, Christchurch, and Dunedin; in smaller centers in Hamilton, Napier, and New Plymouth; and by some individual physicians. Some of these clinics do not operate continuously; some close temporarily, usually for lack of donors. One 1987 estimate stated that one child a week is born as a result of artificial insemination by donor (100). Currently all the centers freeze semen for 3 months to test donors for acquired immunodeficiency syndrome. Policies vary from center to center regarding the age of wife, husband, and donor; the screening, recruitment, and reimbursement of donors; and recordkeeping (87).

In Vitro Fertilization

There is one state-funded IVF program in New Zealand, located in Auckland, which produced its first baby in 1984. As of November 1986,28 IVF babies had been born (100). The IVF program uses no donor gametes. A private clinic was setup in Auckland in 1987 that offers gamete intrafallopian transfer and transvaginal ultrasonically directed oocyte retrieval. Because of the limited facilities and long waiting lists, many infertile New Zealanders go to Australia for IVF (59).

Norway

Two groups in Norway have addressed issues raised by novel reproductive techniques. In 1983, the Council of Medical Research issued ethical directives for artificial insemination and IVF (40). In 1986 a group of ministers proposed a law on both procedures (24), which the Norwegian Parliament adopted in 1987 (Act No. 68 of June 12, 1987).

The 1983 directives stated that artificial insemination and IVF should be limited to married couples or unmarried couples in a stable relationship. There should be uniform law concerning the anonymity of donors, and any children conceived with donated gametes should be considered legitimate. Sperm banks should be regulated by public law. A registration for donors should be instituted for eggs and sperm not immediately used in artificial insemination and IVF. The recipient of donated gametes and any resulting child should have access to medical information about the donor. Finally, research on sperm, eggs, and embryos should be reviewed by medical ethics committees.

The 1987 law states that artificial insemination and IVF are available only to married couples or couples in a stable relationship, that written consent must be obtained, and that the doctor must perform a medical and psychosocial evaluation. Artificial insemination by donor may only take place if the husband is infertile or the carrier of a grave hereditary disease, and IVF may only take place if the woman is otherwise sterile. The doctor must choose the donor, who remains anonymous. The donor may not be given identifying information about the couple or the resulting child. For IVF, the couple's own gametes must be used, and the intended rearing mother must carry the child; gestational surrogacy is not allowed. An Amendment to the Children Act, passed on the same day, states that the consenting husband of a woman using donor sperm should be considered the legitimate father of the child, and that the donor has no legitimate claim to the child.

The 1987 law states that artificial insemination and IVF must take place only in designated hospitals under special authorization by the Ministry of Social Affairs and under the direction of specialists. Cryopreservation of sperm and embryos is allowed, but only at the designated hospitals. Embryos may not be stored for more than 12 months. By virtue of limits on the use of artificial insemination by donor and IVF, surrogacy is illegal in Norway.

Philippines

Although a small number of physicians perform artificial insemination or gamete intrafallopian transfer, the use of reproductive technology is not common in the Philippines. More governmental emphasis is placed on controlling the birth rate than on alleviating infertility (3).

Poland

There are no statutes concerning artificial insemination or IVF in Poland. However, a Supreme Court decision in 1984 stated that the consenting husband of a woman using donor sperm cannot contest paternity of the resulting child (24). Concerning IVF, several clinics have attempted the procedure with no apparent success so far. The state has no objections to the procedure, although the Church disapproves of it(123).

Portugal

A 1984 Portuguese law on sex education and family planning mentions infertility explicitly, stating that the state must encourage its treatment by facilitating the creation of artificial insemination centers and specialized centers for prenatal diagnostics (24).

Since 1985, frozen sperm has been available through the University of Porto, and in 1986 Portugal's first sperm bank was created. Also in 1986, sperm banks became subject to licensing regulation; the regulations state that the donor should not be paid, should remain anonymous, should be within a certain age range, and should have had children previously. Furthermore, the collection, manipulation, and conservation of sperm must be done only by publicly created centers or private doctors specially licensed by the Ministry of Health (24).

According to Portugal's penal code (article 214), artificially inseminating a woman without her consent is punishable by imprisonment (24). Under the Civil Code (article 1839), as amended in 1977, a husband who has consented to donor insemination cannot deny paternity (117). The Department of Justice has setup a "committee for the regulation of new reproductive technologies" that will soon submit a bill concerning these technologies to the Parliament (23).

Spain

The first human sperm bank in Spain was set up in Barcelona in 1978 (77). Efforts to address the legal and ethical issues raised by artificial insemination and IVF increased with the 1986 reports of the Ministry of Justice (116) and the parliamentary commission for the Study of Human In Vitro Fertilization and Artificial Insemination (115). The commission presented 155 recommendations for legislative and regulatory action, covering diverse topics such as quality assurance for medical clinics and personnel offering noncoital reproductive techniques, national and regional record-keeping of use of donor gametes, criteria for embryo donation and experimentation, screening for gamete donors and recipients, and regularization of the legal rights of gamete donors, rearing parents, and children conceived by noncoital means.

The special commission generally recommended that artificial insemination and IVF be available to married or stable unmarried heterosexual couples, but specifically suggested that homosexual couples be banned from their use. Use of a deceased partner's sperm, eggs, or embryo was specifically endorsed, although the resulting children should not inherit from the deceased genetic parent. Donor gametes should be made available to overcome sterility, and their collection and screening should be managed on a strictly noncommercial basis by licensed gamete banks. The commission also recommended that legislation be passed to ensure confidentiality of any individual's infertility, donation of gametes, use of donor gametes, or conception by noncoital means. Finally, limited forms of embryo experimentation were approved.

The special commission recommended the formation of a national commission (Comisision Nacional de Fecundacion Asistida, or CNFA) with separate committees on artificial insemination, IVF, and public policy to issue interim regulations governing relevant medical practice and embryo research, pending legislative action. The CNFA could also review medical findings and approve use of new techniques, such as oocyte freezing or genetic therapy on embryos, as they become nonexperimental. The special commission suggested that regional commissions should be set up as well (115).

The Socialist wing in Parliament has proposed two pieces of legislation that address these issues. The first preserves donor anonymity and limits the number of donations per donor to six, and the second forbids the conception or abortion of embryos exclusively for donation and forbids commercial traffic in human embryo tissue (101).

Artificial Insemination

The special commission recommended that artificial insemination be performed at authorized health clinics, some of which would also operate as sperm and embryo banks, and as ova banks when that technology improves sufficiently. Donation should only be accepted from those in good medical and genetic health, as demonstrated by a physical examination and a karyotype, and could only be made with permission from the donor's spouse or partner after warning that children conceived by donor insemination might yet seek to challenge the constitutionality of limitations on their right to know their genetic parents. Donors would have to be warned that they may not seek parental rights to the children conceived with their gametes, and will not be told the identity or even number of children born to them, although they will be asked to discontinue participation after six children have been born (115).

Recipients would also be screened for general health, fertility, and freedom from infectious diseases. Single women could receive donor gametes for artificial insemination or IVF (although not at public expense) provided they could demonstrate the ability to provide an adequate home. Selection of a donor would be made by the bank, and not by the recipient. Every effort should be made to match the physical appearance of

the recipient's partner, and he would be able to renounce paternity only if he could show that he never consented or that his consent was seriously uninformed. Recipients and offspring would have the right to obtain nonidentifying information about the donor (1 15).

In Vitro Fertilization

The special commission recommended that IVF be available only to overcome infertility or to avoid a grave hereditary disorder, but went on to say that should other uses be made legal, they ought not to be paid for by public funds. The commission especially noted that, as with artificial insemination, the technique should not be used for sex selection. The recommendations state that only seemingly healthy embryos should be implanted, and that no more than the optimal number for a safe, live birth should be implanted. Extra embryos could be frozen for their own future use, be donated by the genetic parents to transfer banks for distribution to other couples, or be given to laboratories for experimentation. The commission suggested a storage limit of 5 years for frozen embryos, subject to new technical developments. Genetic parents could express in writing their wishes regarding disposal of an embryo in the event of death, disease, or divorce (115).

Research on Preimplantation Embryos

With regard to embryo research, the special commission suggested that embryos might be donated by couples not wishing to use them for IVF, but that embryos ought not to be created solely for the purpose of doing research. A time limit of 14 days (not counting time frozen) was recommended. Research would have to be approved by tile CNFA and found to have "positive" goals for individuals or society, such as broadening knowledge on the process of fertilization, causes of infertility and cancer, and techniques for contraception. Research on a particular embryo would only be allowed with permission of the genetic parents, and after they had been informed of the goals of the particular experiment. The commission noted that no research ought to be allowed that involves mixing human and other animal genes, that is performed on embryos or fetuses in utero, or that takes place on an embryo destined to be implanted. Genetic therapy for embryos would be permitted if it could be shown that the embryo exhibited traits for an identifiable and serious disorder, that no other medical or surgical therapy would be effective, and that genetic therapy has a reasonable chance of success (115).

Surrogate Mothers

Surrogate motherhood, whether paid or unpaid, was found unacceptable by the commission. It recommended that any health center offering surrogate matching should lose its authorization to offer IVF and artificial insemination, and that all parties to a surrogacy contract, including the lawyers, agencies, and physicians, should be subject to criminal penalties (115).

Switzerland

There is no legislation in Switzerland pertaining to infertility except that regarding paternity in cases of donor insemination. However, the individual cantons (the Swiss equivalent of states) are now making their own laws, based on the 1985 Swiss Academy of Medical Sciences' directives concerning IVF and 1981 directives on artificial insemination. In Switzerland, most areas of public health are under the authority of the cantons.

one referendum on public demand suggested that the Swiss Government amend the federal constitution to allow regulation of reproductive manipulation and research in human genetics. In response, a federal commission was formed in 1986 to study problems associated with noncoital reproduction and human genetic research. The commission's report is expected in mid-1988 (25,98). The Government will formulate an opinion based on the report. At this point, a procedure of consultation will be carried out, involving all interested parties. The result of the consultation, the referendum, and the Government opinion will be submitted to Parliament for debate and to formulate recommendations (139).

Artificial Insemination

Six centers in Switzerland currently provide artificial insemination by donor in public gynecological clinics (in Bern, Lausanne, Liestal, Locarno, St. Gallen, and Schaffhausen) (25). There are also private gynecologists in Zurich, Bern, and Geneva who provide insemination services. All six insemination centers and the private gynecologists performing the service belong to the Swiss Work Group for Artificial Insemination founded in 1977 to coordinate the activities of the centers, standardize working methods, and carry out scientific programs on a joint basis (25,28). The Swiss Work Group for Artificial Insemination has been subsumed in the Swiss Society of Fertility and Sterility, but the original directives are still in operation.

Donors at the six donor insemination centers are selected by physicians, and all centers apply the fol-

lowing criteria for acceptance of donors: social motivation for donating semen, normal psycho-intellectual state, normal genetic screen, normal clinical and laboratory tests, adequate sperm counts, and age between 20 and 40. One controversial point centers on the use of karyotyping (28). The work group is not concerned with inbreeding, as a given donor usually does not give semen for more than a year and as a significant proportion of the couples requesting artificial insemination by donor come from other countries; thus the number of children fathered by one donor is not regulated. The identity of the donor is never mentioned on the insemination record (26,28), but the 1985 referendum suggested that keeping the genetic parentage of a child hidden from that child should be forbidden, unless the law states that such information should not be available (24). With regard to the child's status, article 256-3 of the Swiss Civil Code (June 1975) states that a husband who has consented to artificial insemination by donor cannot contest the paternity of any resulting child (24).

In Vitro Fertilization

As of January 1988, there were four public centers (in Basel, Lausanne, Locarno, and Zurich) and two private clinics (in Geneva and Lausanne) providing IVF services in Switzerland (25,27).

Within the framework of the law on public health, the Canton of Geneva issued regulations based on the directives of the academy of Medical Sciences on IVF. The academy stated that IVF and embryo transfer must be conducted by a physician, and that the IVF team must follow the academy's guidelines. Both IVF and embryo transfer for a couple with sperm and ova from that couple are allowed. IVF using donor gametes is not allowed, according to the academy directives. In addition, the transfer of embryos from one woman to another is banned by the academy (31), and the the referendum also suggested that the creation of embryo reserves for donation to other couples should be forbidden.

Research on Preimplantation Embryos

The academy directives state that embryos may be kept alive only during the course of treatment, and that research on *human* embryos *must* not be allowed (31). The 1985 referendum proposed that research toward extrauterine pregnancy, cloning, and chimeras should be forbidden, and that the manipulation of embryos or human fetuses such that their development is interrupted should not be allowed. Finally, the referendum disapproved of the commercialization of embryos (24).

Surrogate Mothers

The academy directives and the referendum both agree that IVF and embryo transfer must not be used to initiate surrogate motherhood (24,31).

Turkey

No legal regulation in Turkey covers infertility treatment, but it is generally provided in hospitals as part of standard medical treatment (79).

Yugoslavia

Two of Yugoslavia's republics, Croatia and Slovenia, have enacted laws concerning the right to medically assisted conception. These laws state that women and men have the right to diagnosis of the fertility problem and the right to attempt a remedy. Low fertility, according to the legislation, will be remedied by treatment—such as professional counseling, medication, or surgical procedure—and by artificial insemination (24).

Artificial insemination by husband is not only legal in Yugoslavia but is also a right of any infertile couple. Artificial insemination by donor is permitted in all the republics and provinces of Yugoslavia. In Croatia and Slovenia, where current law outlines the practice of artificial insemination by donor in more detail, the procedure must be performed by specified medical organizations, and it may only be performed when the spouses cannot fulfill their desire for children any other way. Legislation in Croatia and Slovenia states that artificial insemination may be performed upon any healthy adult woman of childbearing age (1 17).

Legislation in Croatia and Slovenia also states that the semen donor must be healthy. The donor is not entitled to any compensation for his semen. Slovenian law further specifies that a woman may not be artificially inseminated with the semen of a man who could not legally marry her for reasons of consanguinity. Legislation in both Croatia and Slovenia requires that the identities of the semen donor, the inseminated woman, and her husband be kept confidential (24).

In Croatia, legislation explicitly requires the consent of the recipient's husband. Other republics, lacking an explicit consent requirement, nonetheless state that lack of consent means that a husband can contest paternity of a child conceived by donor insemination. These republics include Slovenia, Bosnia, Hercegovina, Kosovo, Macedonia, Montenegro, Serbia, and Vojvodina (117).

INTERNATIONAL ORGANIZATIONS

Council of Europe

In 1987 the Council of Europe's Ad Hoc Committee of Experts on Progress in the Biomedical Sciences (CAHBI) submitted proposed principles (38) on the use of noncoital reproductive techniques to the Council of Europe's Committee of Ministers (20). These principles were the subject of a 1986 hearing in Trieste, Italy, that included nongovernmental international organizations. The principles are now being finalized. The Parliamentary Assembly of the Council of Europe also contributed recommendations to the Committee of Ministers (39) concerning the use of human embryos and fetuses for diagnostic, therapeutic, scientific, industrial, and commercial purposes. The Ad Hoc Committee's principles do not currently represent the official position of either the Council of Europe or the member states; the Committee of Ministers of the Council of Europe will decide whether the proposed guidelines should be adopted (23).

CAHBI concerned itself with "artificial procreation," defined to include artificial insemination; in vitro fertilization; methods involving donation of semen, ova, and embryos; and certain procedures carried out on embryos. CAHBI concluded that the availability of artificial procreation techniques should be limited to heterosexual couples with a medical need (defined as infertility or disease that would result in the child's early death or having a severe handicap, such as Huntington's chorea). Selecting sex or special characteristics through artificial procreation is explicitly prohibited.

Noncoital reproduction may only be used if the persons involved have freely given informed consent expressed in writing. Furthermore, it is the physician's responsibility to ensure that the participants receive appropriate information and counseling about possible medical, legal, and social implications of the treatment. only licensed physicians can perform these techniques, and both physicians and clinics must screen donors for hereditary and infectious disease.

CAHBI stated that the number of children born from the gametes of any one donor should be limited and that the donor (as well as any organization authorized to offer gametes for artificial procreation or research) should not receive any profit. Gametes stored for the future use of the donor must be destroyed if the donor dies or cannot be located when the storage term expires.

If donor gametes are used, the provisions state that the woman who gives birth to the child shall be considered the legal mother and her husband or partner will be considered the legal father, provided he has given his consent. The donor will have no rights or responsibilities to the child. CAHBI did not reach any conclusions concerning the anonymity of donors and the right of the child to gain access to information about the donor, choosing to leave this decision to the member countries.

In principle, CAHBI felt that IVF should be performed only with the original couple's gametes; in exceptional cases, however, donated gametes and even donated embryos (only surplus embryos from another couple's IVF procedure) may be used.

CAHBI provisions state that the creation of embryos for research purposes is forbidden, and that research on embryos is only allowed if it benefits the embryo or is an observational study that does the embryo no harm. If the member countries do allow other research, however, the following strict conditions should be observed: the research must have preventive, diagnostic, or therapeutic purposes for grave diseases of the embryo; other methods of achieving the purpose of the research must have been exhausted; no embryo should be used later than 14 days after fertilization; the consent of the donating couple must be obtained; and a multidisciplinary ethics committee must approve the proposed research.

The Parliamentary Assembly submitted a formal recommendation to the Committee of Ministers, in general stating that no diagnostic or therapeutic intervention should be allowed on an embryo in vivo or in vitro except for the well-being of the child; that embryos should not be created for purposes of research; and that certain techniques, such as cloning or producing chimeras, should be forbidden altogether (39).

The CAHBI provisions state that contracts for surrogate motherhood should be unenforceable, and intermediaries and advertising should be forbidden. Surrogate motherhood should be allowed only if the surrogate does not receive material compensation.

European Parliament

The European Parliament has various committees looking at the problems surrounding noncoital reproduction, including its Committee on Legal Affairs and Citizens' Rights. No formal statement has been issued to date.

Since 1984, however, five bills have been proposed in the Parliament concerning reproductive technologies. These include:

- A resolution proposed in February 1985 by Marshal condemning "mechanical adultery" and sur-

rogate motherhood. The resolution encouraged member states to facilitate adoption, discourage abortion, and pass legislation making surrogate motherhood criminal.

- A resolution proposed in October 1984 by the Christian Democratic Party suggesting that the member states introduce legislation regulating experiments concerning human genetics and work toward harmonizing the laws of the various member states. They recommended setting up a commission to study the relevant issues.
- A resolution proposed in October 1984 by the Socialist Party asking for a commission to study the problems surrounding all the reproductive technologies, including eugenics and sex selection.
- A resolution proposed in September 1984 by Lizin asking for a general code on artificial insemination for the European Community.
- A resolution proposed in August 1984 by Habsburg and others urging that embryos be given the rights of children, that the scientific use of embryos be forbidden, and that all forms of experimentation on human embryos be ended (24).

None of these bills were ever approved by the European Parliament.

Feminist International Network of Resistance to Reproductive and Genetic Engineering

FINRRAGE is an organization of feminists concerned with the effects of reproductive technology and genetic engineering on the social position and biological integrity of women. The organization has held several conferences dealing with these issues, including one in Brussels in 1986. (A general discussion of feminist views on reproductive technologies can be found in app. D.)

The main conclusion of the Women's Hearing on Genetic Engineering and Reproductive Technologies at the European Parliament in Brussels (attended by more than 140 women from 10 member states of the European Community) was a consensus that "the approach by official committees, doctors' associations, churches, etc. (and the Legal Affairs Committee of the European Parliament) was less than satisfactory" (56). The women felt that the prevailing view centers on the fetus and ignores women's interests. A summary of the proceedings ended with the following "conclusions and demands, " quoted verbatim from the text:

FINRRAGE demands:

- research into the (complex) causes of sterility and reduced fertility (for example post-appendicitis infections, hormone treatments, intra-uterine pessaries, environmental influences etc.) and promotion and development of alternative methods of treatment.
- comprehensive information on the risks, possible long-term effects and minimal prospects of success of IVF treatment.
- creation of an autonomous women's research and information center on reproductive and genetic engineering.
- political and financial support for autonomous women's groups working the fields of reproductive and genetic engineering, pharmacology and health.
- resumption of the discussion in official committees and ethical committees taking account of the above views and with effective participation by women initiatives which for a long time have been carrying out excellent research and information work in this field.
- rejection of any compulsory counseling and examination.
- repudiation of legislative measures which would block access by certain groups of the population (for example single or lesbian women) to methods such as artificial insemination by donors.
- an immediate ban on the use of medicaments which can be proved to have harmful effects or involve risks.
- no delay until the possible later harmful effects of IVF treatment are revealed for women and children but a reversal of the burden of proof particularly as regards long-term effects (the decision by the cabinet of the Land Government in the Saarland providing for an interim ban on IVF treatment is significant in this context).
- recognition that only women have a legislative right to decide on whether to make use of antenatal examinations (amniocentesis, chorionic villus sampling, etc.) or not or whether to terminate a pregnancy or not (56).

World Health Organization

The World Health Organization held a meeting in Copenhagen in 1985 to discuss infertility and the various reproductive technologies that have been developed. Participants of the meeting made seven recommendations, which are summarized here.

- A report should be prepared on the medical, psychosocial, demographic, economic, ethical, and legal aspects of the latest developments in noncoital reproductive techniques.
- A study should be prepared and implemented in selected member states on public knowledge, needs, and attitudes concerting infertility and reproductive technologies.
- The above two reports should be disseminated to relevant Government agencies, professional organizations, the media, consumer groups, and the general public.
- Guidelines for clinical and research applications of noncoital reproductive techniques need to be developed.

- The activities of ethics committees in member states need to be tracked and Governments should be encouraged to establish such committees.
- The teaching of ethics as part of health professional training should be encouraged.
- It is necessary to promote the establishment of national registers to monitor the use and outcome of noncoital reproductive techniques (138).

World Medical Association

In Brussels in 1985, the 372d Congress of the World Medical Association adopted a resolution calling for all physicians to abide by a uniform set of principles of ethical practice with regard to IVF. It urged physicians to briefly explain to their patients the purpose, risks, inconveniences, and failures of IVF therapy. When donor sperm, eggs, or embryos are used, physicians should clearly explain the risks associated with these procedures as well, particularly risks associated with freezing embryos. When the donors are not the intended rearing parents, the physician should explain to the donors the consequence of their intentions to relinquish all claims to the resulting child, and to the recipients that they will be responsible for the child regardless of its health. It also called on physicians to refrain from reimplanting any embryos used for experimentation, and stated that the Helsinki Declaration on the protection of human research subjects should apply to embryo research as well. With regard to commercialized surrogate motherhood, the World Medical Association found the practice unethical (35).

SUMMARY AND CONCLUSIONS

In general, artificial insemination by husband and donor are considered acceptable techniques worldwide. Several countries have adopted legislation stating a child conceived from donor insemination is the legitimate child of his or her mother and her consenting husband. IVF is also generally considered acceptable, provided it is used only when medically necessary.

The use of artificial insemination and IVF for unmarried couples, homosexual couples, and single men and women is more controversial. The use of donor gametes in IVF is not universally accepted either. Oocyte donation is not as widely accepted as sperm donation, largely because the technology involved is considered experimental. Acceptance of embryo donation also varies widely.

Most controversial, however, are the topics of research on human embryos and surrogate motherhood. Countries that do approve embryo research often stipulate that the embryos used must have been left over from therapeutic IVF attempts, not deliberately created for research, and they often impose a time limit after which research must end. Surrogate motherhood has achieved little acceptance, and several countries have taken positive steps to ban the practice, especially its commercial use.

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