THE DEVELOPMENT AND USE OF ARTIFICIAL INSEMINATION

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THE growing interest in the implications of the practice of artificial insemination, as evidenced by the rapidly accumulating literature on the subject, has disclosed many of the problems which are inevitably associated with the increasingly widespread use of the technique. In order fully to understand these it is necessary to examine the practice from all aspects, and it is submitted that one task is to establish some sort of historical and statistical perspective or background against which the practice must be viewed.

This is neither the time nor the place to attempt a comprehensive history of the practice. The history of artificial insemination has yet to be written,[1] and the following summary is intended to do no more than to indicate that its history is rather more extensive and certainly more continuous than is sometimes suggested.

Early Experiments

Most writers refer to the legend that the first instance of the practice is to be found amongst the Arabs of the fourteenth century. The source of this legend, at least for the purposes of contemporary discussion, would appear to be a work published by Rohleder in 1934,[2] in which he refers to " an Arabic book," which appeared, he says about A.D. 1332. Since no references are given further investigation of this legend does not appear to be possible.[3] More recently an even earlier instance has been claimed, however, by Kardimon[4] and Kleegman[5] who refer to a discussion of the problem in the Talmudic literature, although in point of fact the problem to which they refer would appear to be that of " accidental " rather then " artificial " insemination.

As far as Europe was concerned artificial insemination was attempted experimentally on animals from time to time, the first successful case being that of Jacobi whose work was published in 1765, and who succeeded in performing an artificial insemination using fish eggs.[6] Shortly after, in 1786, Spallanzani successfully performed an artificial insemination with dogs.[7] It is interesting to note, in this connection, that Glover records Bonnet as writing to Spallanzani, at the time, in the following terms:[8]

> Je sais même si ce que vous venez de décourir, n'aura pas quelque jour dans l'espèce humaine des applications auxquelles nous ne songeons point et dont les suites ne seront pas legérès.

Human Artificial Insemination

In point of fact the first application of the practice to the human species occurred within a very few years, being performed by John Hunter in about 1790, although a report was not published until 1799, and then not by Hunter himself but by his brother-in-law, Sir Everard Home.[9] It is perhaps worth remarking that Roubaud did not accept Hunter's work as being of scientific value, on the ground that, " l'operation a été faite par le mari et par conséquent en dehors de tout contrôle scientifique."[10] The report of the insemination, as it appears in the *Philosophical Transactions*, does not in fact make it clear by whom it was actually carried out, but whether it was carried out by Hunter, the husband, or a third party, the fact remains that it was a case of successful artificial insemination and the first which appears in the literature.[11]

Many writers would appear to regard the next contribution to the subject as being that of Sims in 1866.[12] It would appear,

however, that this ignores the development of the subject on the Continent, particularly in France. Thus, for example, Gigon claimed, in an article written in 1867, to have performed artificial inseminations since 1846,[13] whilst Girault, in the following year, reported ten cases, the earliest of which dated back to 1838.[14] Another French contribution to the subject which is earlier than that of Sims, is the work of Dehaut, whose book was published in 1865.[15]

Davis[16] refers to an article by Hamilton, published in 1909, in which yet another claim to work earlier than that of Sims is put forward.[17] Hamilton makes this claim on behalf of Bedford, whom, he alleged, recommended artificial insemination for many years before its use by Sims. As no references are given it is impossible to trace this claim further. Sims himself, however, refers to earlier work by Dr. Harley[18] who apparently informed Sims that he had, "repeatedly performed the experiment of injecting the semen into the cavity of the uterus but with no result."

Sims himself recorded six cases of artificial insemination from only one of which pregnancy resulted, and even this failed to terminate successfully. In a review of his book the *Medical Times and Gazette*[19] greeted Sims's results with the pronouncement that "this dabbling in that canal with a speculum and syringe" was not compatible with decency and self-respect, and with surprising vulgarity they referred to "this squirt begotten embryo." Sims, who was by any standards a great gynaecologist, was undoubtedly disturbed by the virulence of the criticism.[20] In 1868, in a paper read to the British Association, he replied to his critics saying,[21]

> For myself I see no indelicacy or impropriety in taking mucus from the vagina and uterus for microscopic examination. It is no more indelicate, no more impure than to investigate the character and properties of saliva, or bile, or urine, or fæces.

Subsequently, however, he abandoned the practice, and in the third edition of his book he wrote,[22]

> I have given up the practice altogether and do not expect to return to it again; but as others may feel disposed to try further experiments in this direction I shall here give them the advantage of my experience.

Within a few years, however, it would appear that the practice of artificial insemination had become, in France at any rate, accepted as a normal method for the treatment of sterility in those cases in which no other remedy appeared effective. Courty, in the second edition of his work which was published in 1872 wrote,[23]

> Que si la difficulté d'arriver à établir la direction rectiligne du canal utérin inspirait à quelqu'un de nos confrères la pensée d'essayer la fécondation artificelle je vais lui indiquer le procédé le meilleur pour conserver au sperme sa vitalité et aux spermatozoïdes leur mouvements propres, en même temps que sauvegarder les lois de la pudeur et toutes les convenances.

In 1881 Eustache stated,[24]

> Quand tous les moyens ont échoué il y aura lieu de songer à la fécondation artificielle. Cette intervention ultime *ultima ratio* n'est condamnée ni par la morale ni par la religion; elle est justifiée par le désir, légitime et essentiellement moral, d'avoir des enfants et aussi par un certain nombre des succès incontestables.

Finally in 1884 de Sinéty wrote,[25]

> Enfin quand tous les moyens ont échoué, que le liquide spermatique du mari présente toutes les conditions en apparence normales, on est en droit de pratiquer la fécondation artificielle, dans des cas determinés, et lorsque les époux le desirent . . . Quoi qu'il en soit et malgré les quelques resultats positifs deja obtenus nous reservons la fécondation artificielle pour un très petit nombre de sujets nous ne la considerons que comme *l'ultima ratio* du traitement de la sterilité.

It would seem reasonable to assume that these views do not represent merely theoretical opinions, but that behind them lies the actual practice of artificial insemination. That this is the case would appear to be supported by the fact that as early as 1887 the question as to whether the artificial fecundation of women was permissible was put to the Sacred Congregation of the Holy Office. The reply was a *non licere*,[26] but one may surely presume that a practice must have become fairly widespread before questions would be submitted to the Sacred Congregation. Unfortunately it does not appear possible to discover how widespread,

for there are no published statistics, and it is therefore impossible to fill Eustache's " certain nombre des succès " or de Sinéty's " resultats positifs " with any statistical content.

The idea, however, gained ground and in Russia, for example, it was extensively developed by Ivanov for veterinary purposes. He appears to have begun work about 1890, although his monograph on the subject was not published until 1907.[27] Since that date progress in Russia, at least in the veterinary field, appears to have been very marked indeed.[28]

The First Hetrologous Insemination

To return to artificial human insemination, it appears that it is to the late nineteenth century that we must look for the first authenticated report of A.I.D.—for all previous discussion had been confined to A.I.H. The first hetrologous insemination (A.I.D.) is recorded by Hard as having been performed by Professor Pancoast in 1884. Thus in 1909 Hard wrote,[29] " It is twenty-five years since Professor Pancoast . . . performed the first artificial insemination of a woman," and the report which follows leaves no doubt that the case was one of hetrologous insemination. It may be remarked that the publication of Hard's article gave rise to considerable discussion in the columns of the *Medical World*, most of the comment being unfavourable.

The Twentieth Century

Attempts to trace the development of the practice of artificial insemination after the turn of the century become a matter of some difficulty, and there are a large number of conflicting claims as to priorities. Thus Halbrecht[30] claims that, after Sims, it was Doederlin who introduced artificial insemination into medical practice. Hühner, writing in 1937[31] claims to have begun extensive use of the practice in 1915, whilst Hamilton,[32] writing in 1909, claimed to have used artificial insemination for fifteen years, " without a single failure."

In our submission, however, since there is reasonable evidence of continuity of practice going back over many years, the question of the existence of priorities in the twentieth century ceases to be a matter of great significance, consequently emphasis will now be laid on the statistical rather than the historical aspect of the problem.

The development of the practice would appear to have been relatively slow. In 1924 Rohleder,[33] in a survey of the world's literature was able to find only 123 cases reported, whilst in 1928 Engleman,[34] in a further survey was only able to increase this figure to 185, of which sixty-five had been successful. There does not appear to have been any comprehensive survey of the statistics made since that date, and this is neither the time nor the place to attempt such a survey, even assuming we had the facilities and the ability to do so. It may however be emphasised that the collection of statistics in this subject is a matter of considerable difficulty, for in many cases the references are very vague and do little more than indicate that the practice is more widespread than the published statistics suggest. Thus Greenhill, in his closing contribution to a symposium on the subject, as reported in the *American Practitioner*, stated,[35]

> I have been doing artificial insemination for many years. I mentioned the fact that my first successful case took place in 1923. . . . I continued to do more artificial inseminations, and as time went on I performed more and more of them, but I never wrote a paper on this subject.

Artificial Insemination in the U.S.A.

It is against this background that one must attempt to assess the figures published by Seymour and Koerner in 1941 to the effect that, in the United States by that date, 9,489 women had been successfully impregnated, and that 97 per cent of the pregnancies had terminated successfully.[36] These figures were compiled on the basis of answers to a questionnaire on the subject. This had been sent to 30,000 doctors, of whom 7,643 replied, and of these 4,049 reported that they had carried out successful impregnations, 1,115 reported that they had been unsuccessful in obtaining any pregnancies, whilst 2,478 reported that they never used the practice. Finally, it should be

noted that of the women who had had at least one successful pregnancy as a result of the insemination, many returned for further inseminations, and of these 1,357 had been successful in obtaining a further pregnancy.

These figures, when compared with the number of cases reported in the medical literature, are doubtless startling. Clearly it is only reasonable to suppose that there would in fact be a considerable discrepancy between the two. The number of busy practitioners who would bother to write up cases of artificial insemination unless there were some aspect of a case which made it of more than usual interest must be relatively small. One would therefore expect that the total number of inseminations undertaken, assuming the number to be obtainable, would be considerably higher than the number of cases recorded in the medical literature. Nevertheless the discrepancy between the medical statistics and the figures obtained by Seymour and Koerner was much greater than many people had expected and they have not passed unchallenged.

They were subjected to criticism, usually described as " trenchant," by Drs. Tuckerman and Cook, which was reported by Folsome in the *Journal of the American Gynaecological Society*.[37] This criticism is quoted by Sullivan in his contribution to the conference held under the auspices of the Public Morality Council. He refers to it as an analysis of the figures by the American Gynaecological Society, and states, with presumably unconscious humour, that their conclusion was that " the figures of these two ladies did not stand analysis " and he adds, " showing, in other words, that the extraordinary successes they claimed were invalid."[38]

It is submitted that this interpretation of the criticism cannot be sustained, for the criticism applies not so much to the actual figures obtained, but to the mathematical analysis to which they were subjected. It seems clear that neither Seymour nor Koerner are mathematicians, and their handling of the figures is obviously open to mathematical criticism, yet the fact that of the doctors who replied to their questionnaire 4,049 reported that they had carried out 9,489 successful impregnations remains unaffected. There is surely no reason to believe that the doctors were deliberately falsifying their returns,[39] and if Seymour and Koerner's investigation is not mathematically beyond reproach the fact surely remains that their results indicate that the practice is very much more widespread than had been expected.

Further evidence as to the extent of the practice in the United States is the statement made by Ploscowe to the effect that by 1951 the number of children born as a result of artificial insemination had risen to 20,000.[40] We have been unable to ascertain the basis upon which this figure was reached, but if it has any basis at all—and there is no reason to think that it represents purely the product of imagination—it would seem reasonable to suppose that the prevalence of the practice is growing very fast in the United States.

This suggestion is certainly supported by the figures quoted by Lo Gatto.[41] He quotes a writer in the *New York Post* who, in 1955, estimated that the number of children conceived in the United States, by that date, to be about 50,000. He also quotes Lang who, writing in the same year, estimated the annual increase in America to be between 1,000 and 1,200. It will be observed that if the above figures for the total number of children conceived by artificial insemination are accepted, then the figure given by Lang for the annual increase, must be too low. Thus if Seymour and Koerner's figures and those of Ploscowe are accepted as relating to the years 1941 and 1951 respectively, then, admittedly, this gives an average annual increase of about 1,000 per year, but if the figure given in the *New York Post* for 1955 is correct, or even only fairly accurate, then the average annual increase between 1951 and 1955 must be of the order of 6,000 per year.

Clearly it is only reasonable to expect that the rate of increase as well as the total figure is increasing, yet it is clear that the American

figures are, at the moment, too incomplete and unsubstantiated to give more than a very general idea of the prevalence of the practice.

Artificial Insemination in Great Britain

Very much is true of the figures for Great Britain. The only reported series of cases that we have been able to trace is that of Barton *et al*,[42] who reported, in a first series of thirty cases, in which homologous insemination was used, nine pregnancies of which four terminated successfully, and in a second series of fifteen cases in which hetrologous insemination was used, ten pregnancies of which eight terminated successfully. Dr. Margaret Jackson[43] reported to the Archbishop's Commission, in a series of thirty-four cases, seventeen pregnancies of which thirteen terminated successfully.

The statements made before the inquiry held under the auspices of the Public Morality Council, however, appear to indicate much higher figures than those given above. Dr. Mary Barton stated that over a period of five years about 300 children had been conceived as a result of artificial insemination and in answer to a question she stated that this figure related to hetrologous insemination, adding, " If I had been speaking of A.I.H. there would have been thousands of cases from which to quote."[44] Again, in Lane-Roberts's book, to which Dr. Barton was a contributor, it is stated, " We have employed donated semen in several hundred cases."[45]

Social Implications

Two conclusions can be drawn, it is submitted, from a consideration of the above facts. First, that although the widespread use of artificial insemination is fairly recent, the technique itself cannot be dismissed as merely another manifestation of the modern technological approach to life. It has a long and not undistinguished history. Second, the practice has to-day become sufficiently widespread for discussion of its implications to be more than a matter of academic interest.

In considering these problems however, not only the historical perspective, but also the structure of contemporary society, into which the technique has to be fitted, must be carefully considered. It is not possible here to discuss the many and complex problems which arise, particularly those associated with the medical aspects of the problem, for if, as Guttmacher has stated, " there is more drivel and rot published about it [artificial insemination] than almost anything else in the whole gamut of medicine,"[46] then it is clearly not for the unqualified even to attempt to enunciate the problems. There is, however, one point which it is necessary to emphasise strongly, namely the fact that artificial insemination is, medically, only an indicated procedure in a relatively small number of cases. Lack of appreciation of this point is responsible for most of the confusion which appears in the literature, much of which seems to be based on the assumption that almost any woman, under almost any circumstances could obtain insemination if she wished. This is clearly not so.

In the first place medical opinion is unanimous that insemination would never be carried out by any reputable practitioner unless both husband and wife consented. For practical purposes, therefore, we may, as Binney has suggested,[47]

> disregard such melodramatic but impossible characters as the Machiavellian doctor who artificially inseminates a woman against her will, and the unscrupulous adventuress who has herself artificially inseminated in order to bring false charges against some man.

It is perfectly true that the melodramatic does on occasion occur, yet in a subject such as the present, in which we are searching for fundamental principles, it is surely advisable, initially at any rate, to confine our attention to situations which are reasonably likely to occur in practice.

Having, for the moment at any rate, disposed of the two types of cases mentioned above, the second point which needs emphasis is that insemination is clearly only an indicated procedure in those cases in which the marriage is established to be involuntarily childless. Again the medical literature is unanimous that there is no justification for resort to the procedure unless the

marriage falls into this category. In order to establish a statistical perspective in this matter it may be pointed out that the authorities seem to be agreed that approximately 10 per cent of all marriages do fall into this category. Different authorities vary slightly in their estimates of this figure, but it would appear generally to be agreed that it is not lower than about 7 per cent, nor higher than 17 per cent.[48]

It should further be emphasised that even within this category it would appear that medical opinion only regards artificial insemination as an indicated procedure in a small percentage of cases. Opinion is divided however as to what the indications are and different authorities classify the indications in different ways, but in considering these it is submitted that it is well to bear in mind the opinion voiced by Meaker when he wrote:[49]

> In the great majority of cases of human infertility the cause of the defect is not some single abnormality but rather the summation or totality of several factors. . . . Seventy per cent of the couples who apply for the relief of childlessness show no single condition which would account for their difficulty. They do show, without exception, a group of causative factors of which each one lowers their fertility to some extent and of which the sum total depresses that fertility below the threshold of conception.

However, it is worth emphasising, in this context, as Guttmacher has pointed out,[50] that in two of the longest series that have been written up, Schultz[51] used insemination in only 102 cases out of 2,000 (i.e. approximately 5 per cent),[52] whilst Shorohowa resorted to the practice in fifty out of 586 cases (i.e. approximately 9 per cent). If this figure be combined with the figure for the number of childless marriages it would appear to follow that in under 1 per cent of all marriages could artificial insemination be an indicated procedure.

The inescapable conclusion, it is submitted, is that there is no evidence to suggest that current medical practice supports unrestrained or indiscriminate use of the technique, such as seems to be evisaged by some non-medical writers. The extent to which resort to the practice is justified is summarised by Siegler as follows:[53]

> Artificial insemination should be the last resort in the treatment of infertility, indicated only where there has been found an unremedial and absolute barrier to the function of reproduction in the male or female, or to the performance of the act of copulation.

Guttmacher insists that insemination should never be " an assembly line kind of medical treatment " and adds, " Only a small percentage of patients who apply qualify for so radical a procedure."[54]

One final point should be emphasised. Artificial insemination is not simply another new technique the novelty of which attracts certain warped minds. It is not a mere fashion like face lifting. It is a serious attempt to deal with a very real problem, that of the childless marriage. As one learned writer has put it:[55]

> The involuntarily barren marriage continues, as it has done for ages, to present an important medical, economic and psychological problem. The oft-quoted statement that from 10 per cent to 15 per cent of marriages in the United States are involuntarily barren, whilst coldly accurate, does not sufficiently express the appalling degree of marital insecurity and deep unhappiness which lie submerged in the statistics.

The degree of marital instability which results from a childless marriage is well illustrated by Lamson *et al.*[56] They quote Durkheim[57] who wrote that he found suicide was twice as common amongst childless couples as amongst those with children. They also quote various analyses of divorce statistics which would appear to indicate that the divorce rate is nearly twice as great amongst childless couples as amongst those with children.[58] The greater instability of childless marriages surely needs no further emphasis.

It is sometimes objected, however, that the problems of the childless marriage can be remedied by adoption, without resorting to a procedure which many people undoubtedly feel to be so repugnant that nothing could justify resort thereto. It would appear that this is essentially a male attitude. A woman's natural desire, it appears, is to bear a child, not merely to raise one. This point was strongly emphasised by both Mary Barton and Joan Malleson in their contributions to the conference held under the auspices of the

Public Morality Council. The former stated:[59]

> There is no stronger urge in the developed woman, in my experience, than that of bearing children, to experience maternity, and to have a child of her own. Adoption, therefore, even if enough children could be provided to go round, would not meet the case.

She suggested that adoption would only be a satisfactory remedy in about 30 per cent of childless marriages.

Finally we may refer to the suggestion made by Kleegman[60] to the effect that the practice should be referred to as therapeutic rather than artificial insemination. That is what, at least as far as current British medical practice would appear to be, it is. It is no more artificial than blood transfusion, plastic surgery or corneal transplantation. This view it may be mentioned appears to be implicit in the opinion of Mantegazza[61] to the effect that if it is a sin to assist the uterus to conceive by artificial means then it must also be a sin to assist the digestion by pepsin.

It is respectfully submitted that in discussions concerning artificial insemination there are two issues which should be kept distinct. First, there are the problems arising from the present practice. Second, there are the problems relating to what the limits of the practice should be.

We have endeavoured to draw attention to what appear to be the limits of the present practice as voluntarily imposed by the medical profession. The discussion of the problems which arise from the present practice, limited as it would appear to be, is a matter not only of great interest, but also of some urgency, for, in the words of a leading article in the *British Medical Journal*,[62]

> The medical practitioner desires to help his patients in every possible way, and evidence is not lacking that in a number of cases he can give substantial help by artificial insemination. It is neither just nor desirable that he should do so at such a risk as the recent discussions have disclosed. He has a right to statutory guidance and protection.

Quite apart from discussions of the problems arising from the present therapeutically limited practice of the technique there is the problem of what in fact the limits of the practice ought to be, and how to confine the practice within those limits, whatever they may be. There are not wanting those who urge that artificial insemination should not be merely a therapeutic technique to be used in a limited number of cases, but should be actively encouraged either for eugenic purposes as conceived by Julian Huxley[63] or Brewer,[64] for the purposes of sustaining a falling demographic curve, or for fulfilling the objects of the League of Bachelor Mothers.

A discussion of these issues is beyond the limits of this paper, and we would conclude by emphasising that artificial insemination is a scientific technique, and to it, and its consequences, society must adjust itself. Like all techniques it raises many problems and difficulties. It is, of course, capable of abuse, it is equally capable of conferring many benefits. To seek legislation to make hetrologous insemination criminal, as recommended by the Archbishop's Commission is, in our opinion, to evade the issue. This is merely to turn one's back on the benefits that the technique is capable of conferring. Controlled the practice must be, and the problems that it raises must be squarely faced, but this cannot be done by unconditional prohibition of that form of the practice which seems to be the one which, medically speaking, is the most successful.[65]

Jacobits has written that:[66]

> Such human stud farming exposes society to the gravest dangers which can never be outweighed by the benefits that may accrue in individual cases.

Implicit in this opinion seems to be the assumption that there is no alternative between uncontrolled insemination and absolute prohibition. It is submitted that the obvious dangers to society stem from the uncontrolled use of the practice, and that these can adequately be avoided by suitable control without depriving individuals of the undoubted benefits that ensue in those cases in which insemination is an indicated procedure.

It may well be that the revolution effected by the introduction of this technique will require a more searching reappraisal of fundamental principles. The first step in any

such re-thinking must be a consideration of the relationship between the technique and the existing structure of society, and it will only be after much discussion of all the problems from all points of view, medical, legal, social and psychological, that any proposals for legislation can usefully be formulated. All that has been attempted here is briefly to indicate some of the factors relevant to the historical background and medical context of the technique and some of the limits of its present practice.[67]

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43. At p. 13; Report of the Commission, *Artificial Human Insemination* was published in 1948 and reprinted in 1952.
44. *Op. cit.*, at p. 45.
45. *Sterility and Impaired Fertility*. 1939. p. 341.
46. Artificial Insemination in Sterility. 1943. *Proc. Interst. Postgrad. Med. Assoc.*, **56.**
47. Legal and Social Implications of Artificial Insemination. 1949. *Eugenics Rev.*, **40.**
48. The Royal Commission on Population for England and Wales (1949), gives the figure as being between 5 per cent and 8 per cent. As the learned editors of *Postgraduate Obstetrics and Gynaecology* 2nd ed. 1955, point out, however, this figure must be too low. The Registrar-General's returns for 1939 show that of the 77,843 married women who died in that year 13,337 (i.e. 17 per cent)were childless. It is unlikely that this figure would be substantially reduced even when allowance has been made for voluntary childlessness. For the American figures see Pearl, *The Natural History of Population*, 1939 and Lotka, Sterility in American Marriages. 1928. *Proc. Nat. Acad. Med. Soc.*, **14,** 99.
49. Gynecologic Aspects of Human Sterility. 1936. *J.A.M.A.*, **107,** 1847.
50. The Role of Artificial Insemination in the Treatment of Sterility. 1942. *J.A.M.A.*, **120,** 442.
51. Kunstliche Befruchtung: Ihre Stellung in Gezamtrahmen der Sterilitäts-behandlung. 1941. *Zentralbl. f. Gynäk.*, **65,** 988.
52. La fécondation artificielle dans l'èspece humaine. 1927. *Gynec. et Obst.*, **15,** 132. Folsome, *op. cit.*, gives Shorohowa's figure as 88. This however was Shorohowa's estimate as to the total number of cases reported in the literature and not the number undertaken by Shorohowa himself.
53. *Fertility in Women*. 1945. p. 401.
54. 1943. *Bull. N.Y. Acad., Med.*, **19,** 573.
55. Israeli: The Scope of Artificial Insemination in the Barren Marriage. 1941. *Am. J. Med. Sci.*, **202,** 92.
56. Sociologic and Psychologic Aspects of Artificial Insemination. 1951. *J.A.M.A.*, **145,** 1062.
57. *Le Suicide*. 1930.
58. The learned authors quote Cohen, *Statistical Analysis of American Divorce* (1932), whose figures were that 71 per cent of childless marriages end in divorce whilst only 8 per cent of those with children do. These figures were doubted by Popenoe, Infertility and the Stability of Marriage. 1948 *West. J. Surg.*, **56,** 309. Lamson citesJaconsen (1950). *Am. Soc. Rev.*, **15,** 235, as being more reliable. His figures showed that of the 421,000 divorces and annullments granted in America in 1948 nearly three-fifths concerned childless marriages. He computed that the divorce rate for childless couples was 15·3 per thousand compared with 8·8 for couples with children. Lamson also quotes evidence to show that these figures are not unique for the U.S., see, van Zanten and van den Brink, Population Phenomena in Amsterdam Population. 1938. *J. Internat. Union. Sc. Invest. Pop. Prob.*, **2,** 30 and Quesnel, Frequency of Divorce with Special Regard to the Number of Children. 1938. Annex No. 6, *Stat. Inst., Lund.*
59. *Op. cit.*, p. 42.
60. *Op. cit.*, p. 11.
61. Note sulla fecondazione artificele nella donna. 1887. *Gazzetta degli ospedali e delle clinche*, **8,** 81.
62. 1949. *B.M.J.* (May 3rd.)
63. *The Uniqueness of Man*, quoted by the report of the Archbishop's Commission, p. 8.
64. Eutelegenesis. 1935. *Eugenics Rev.*, **27,** 121.
65. The medical statistics would appear to indicate that the percentage of successful inseminations is very much higher for A.I.D. than for A.I.H. See Lane-Roberts, *op. cit.*
66. *Problems of Jewish Family Life*. p. 14.
67. I gratefully acknowledge the help given to me by the Librarian of Royal Society of Medicine in granting me the facilities of the Society's Library whilst I was writing this article.