

STH: NYK2/LDN, JULY 22ND 1978 HSG: PLA  
TO: LONDON, WESTEDIT, WASHINGTON, BOSTON, NEWYORK  
FROM: TIME MEDICINE  
SLUG: TEST TUBE BABY CLOSE: 7/21 EOH:

THE FOLLOWING STORY SENIOR-EDITED BUT UNCHECKED,  
IS SENT TO YOU FOR COMMENTS AND CORRECTIONS:

MEDICINE COVER (GOLDEN) OXC01  
LJ

THE FIRST TEST TUBE BABY  
FUROR OVER CHILD CONCEIVED IN THE LABORATORY  
THE DIRECTOR...CONTINUED WITH SOME ACCOUNT OF THE TECHNIQUE  
FOR PRESERVING THE EXCISED OVARY ALIVE AND ACTIVELY  
DEVELOPING, PASSED ON TO A CONSIDERATION OF OPTIMUM  
TEMPERATURE, SALINITY, VISCOSITY...ACTUALLY SHOWED THEM HOW  
THE EGGS... WERE INSPECTED FOR ABNORMALITIES, COUNTED AND  
TRANSFERRED TO A POROUS RECEPTACLE. HOW THIS RECEPTACLE WAS  
IMMERSED IN A WARM BOUILLION CONTAINING FREE-SWIMMING  
SPERMATOOZOA  
ALDOUS HUXLEY, BRAVE NEW WORLD (1932).

TO MILLIONS OF PEOPLE IN BRITAIN AND ELSEWHERE AROUND THE  
WORLD LAST WEEK, IT SEEMED AS IF HUXLEY'S PROPHETIC VISION  
HAD BECOME REALITY. BANNER HEADLINES IN BRITAIN CALLED IT  
OUR MIRACLE AND BABY OF THE CENTURY. ON TELEVISION NEWSCASTS  
IN EUROPE AND THE U.S., STORIES ABOUT AN OBSCURE BRITISH  
COUPLE AND THE ARCANE SUBJECT OF EMBRYOLOGY SHOULDERED ASIDE  
ITEMS ABOUT THE MIDDLE EAST, INTERNATIONAL TRADE BALANCES,  
THE LATEST SPORTS EVENTS AND INFLATION. SOME COMMENTATORS  
HAILED THE PENDING EVENT AS A MIRACLE OF MODERN MEDICINE,  
COMPARABLE TO THE DECIPHERING OF THE GENETIC CODE OR THE  
FIRST HEART TRANSPLANT. THEOLOGIANS AND MORE THAN A FEW

PROMINENT SCIENTISTS BOUNDED WARNINGS ABOUT THE PROFOUNDLY DISTURBING MORAL, ETHICAL AND SOCIAL IMPLICATIONS. OTHERS, MADE WARY BY THE RECENT CLONING HOAX, REMAINED UNCONVINCED THAT THE CHILD ABOUT TO BE BORN WAS INDEED THE WORLD'S FIRST TEST-TUBE BABY.

THE FOCUS OF ALL THE FUROR WAS A SPRAWLING FOUR-STORY RED BRICK BUILDING IN THE OLD COTTAGE OF OLDHAM IN THE NORTHWEST REGION OF ENGLAND. THERE, IN A GUARDED ROOM OF THE MATERNITY SECTION OF OLDHAM DISTRICT GENERAL HOSPITAL, LESLEY BROWN, A 35-YEAR-OLD BRISTOL HOUSEWIFE LAY IN HER FINAL MONTH OF PREGNANCY. FOR NINE YEARS SHE AND HER HUSBAND, JOHN, 60, A VAN DRIVER FOR BRITISH NATIONAL RAILWAYS, HAD FUTILELY TRIED TO HAVE A CHILD. NOW, FINALLY, THE BROWNS WERE ABOUT TO ACHIEVE THEIR GOAL IN A MOST SPECTACULAR MANNER. EARLY IN AUGUST THE TARGET DATE GIVEN LAST WEEK WAS AUG. 4 SHE IS EXPECTED TO GIVE BIRTH BY NATURAL MEANS TO A CHILD THAT HER DOCTORS SAY WAS CONCEIVED, NOT IN HER BODY, BUT IN VITRO AMID THE STERILE GLASS AND GADGETRY OF THE LABORATORY.

IN ANTICIPATION OF THAT SCIENTIFICALLY-ASSISTED BLESSED EVENT, THE NORMALLY QUIET INDUSTRIAL CENTER (POP. 200,000) LAST WEEK WAS IN A STATE OF FROM AS FAR OFF AS JAPAN HUNDREDS OF REPORTERS AND CAMERAMEN HAD CONVERGED ON OLDHAM TO BE ON HAND FOR THE BIRTH OF BABY BROWN. DESPITE PLEAS FROM THE DOCTORS THAT THE HULDAALOO WAS ENDANGERING BOTH MOTHER AND CHILD, JOURNALISTS STEADFASTLY PROBED THE HOSPITAL'S PRECINCTS. THEY HOPED FOR ANY MERSEL OF NEWS PERHAPS A BRIEF WORD WITH THE DOCTOR, PATRICK STEPTOE, WHO CAME AND WENT DAILY IN HIS WHITE MERCEDES, DODGING IN AND OUT OF THE HOSPITAL'S SIDE DOORS TO AVOID THE PRESS, OR MAYBE A CHAT WITH THE EQUALLY ELUSIVE FATHER, OR BETTER YET A GLIMPSE OF LESLEY BROWN BEHIND HER CAREFULLY CURTAINED

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WINDOW. BUT PICKINGS WERE SLIM. THE BROWNS HAD MADE A Reported  
DLRS000,000 DEAL THAT ALLOWED ONLY REPORTERS FROM THE LONDON  
DAILY MAIL TO HAVE ACCESS THE BROWN FAMILY, THE DOCTORS AND  
OLDHAM HOSPITAL PERSONNEL. FRUSTRATION RAN HIGH AND RUMOR  
HAD IT THAT A BOMB THREAT AT THE HOSPITAL HAD BEEN CALLED  
BY A REPORTER WHO, AS A LAST RESORT, PLANNED TO INTERCEPT  
LESLEY BROWN AS SHE WAS BEING EVACUATED FROM THE BUILDING.  
SNARLED A HOSPITAL GUARD AT A CLUSTER OF REPORTERS WHO HAD  
STATIONED THEMSELVES JUST UNDER LESLEY BROWN'S ROOM: "YOU  
BASTARDS, DON'T YOU CARE ABOUT THE BABY?"

IN FACT, JOURNALISTS AS WELL AS PUBLIC CARED ALL TOO  
MUCH. AS THE OLDHAM EVENING CHRONICLE SAGELY COMMENTED:  
"THE WORLD'S PRESS SHOULD SCRAMBLE FOR INFORMATION. PEOPLE  
WANT TO KNOW, AND HAVE A RIGHT TO BE CURIOUS ABOUT SUCH  
THINGS." INDEED, LONG BEFORE ANYONE HEARD OF HUXLEY, ORWELL  
OR EVEN MARY SHELLY'S FRANKENSTEIN MONSTER, PEOPLE HAVE BEEN  
FASCINATED AND FRIGHTENED BY THE PROSPECTS OF CREATING LIFE  
OUTSIDE THE WOMB. BIBLICAL REFERENCES TK. IN THE MIDDLE  
AGES, THE RABBI OF PRAGUE WAS THOUGHT TO BE ENDOWED WITH  
MYSTICAL POWERS THAT ENABLED HIM TO CREATE A GOLEM, OR  
ARTIFICIAL MAN, AT WILL. PERHAPS THE MOST FAMOUS OF THESE  
LEGENDS IS THAT OF FAUST AND HIS HOMUNCULUS, THE LITTLE MAN  
THAT THE GREAT SCIENTIST CREATED IN A TEST TUBE.

YET FOR ALL MYTHIC METAPHORS IN THE BRITISH PRESS WE  
COULD GET BABY FARMS, MASS PRODUCED KIDS, 1984 SIX YEARS  
EARLY, EXCLAIMED ~~THE~~ LONDON DAILY EXPRESS THE BROWN CASE  
FELL FAR SHORT OF USHERING IN A BRAVE NEW WORLD. LIKE  
COUNTLESS OTHER WOMEN WITH FERTILITY PROBLEMS, LESLEY BROWN  
SUFFERED FROM AN UNDISCLOSED FALLOPIAN TUBE PROBLEM. IN  
THEIR ALMOST FANATIC INSISTENCE ON SECRECY, HER DOCTORS  
DECLINED TO SAY WHETHER THE TUBES WERE  
IMPAIRED. ~~BUT~~ WHATEVER THE TROUBLE, IT WAS APPARENTLY

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SERIOUS ENOUGH TO PREVENT HER FROM BECOMING PREGNANT. UNDER NORMAL CIRCUMSTANCES, PREGNANCY OCCURS WHEN AN OVUM, OR EGG CELL, RELEASED BY A WOMAN'S OVARY DURING OVULATION IS FERTILIZED IN THE FALLOPIAN TUBE BY A SINGLE SPERM THAT HAS TRAVELED UP FROM THE VAGINA. AFTER THE FERTILIZED EGG UNDERGOES A NUMBER OF CELL DIVISIONS, THE TINY CLUMP OF CELLS ENTERS THE UTERUS, WHERE IT BURROWS INTO THE WALL AND DEVELOPS UNTIL BIRTH.

TO BYPASS LESLEY BROWN'S FALLOPIAN TUBES, STEPTOE, 65, A HIGHLY RESPECTED GYNECOLOGIST AT OLDHAM AND A PIONEER IN EXTRA UTERO FERTILIZATION, AND HIS COLLEAGUE, CAMBRIDGE UNIVERSITY PHYSIOLOGIST ROBERT EDWARDS, 55, UNDERTOOK A REMARKABLE PROCEDURE THEY HAVE BEEN EXPERIMENTING WITH FOR NEARLY A DECADE: THEY REMOVED A RIPE EGG FROM MRS. BROWN'S WOMB, FERTILIZED IT EXTERNALLY IN A LABORATORY DISH WITH SPERM FROM HER HUSBAND, THEN INCUBATED THE OVUM THROUGH ITS INITIAL STAGES OF CELL DIVISION, AND FINALLY IMPLANTED THE CLEAVING EGG BACK INTO THE UTERUS, WHERE IT CONTINUED TO GROW AND DEVELOP IN WHAT SEEMED TO BE AN ENTIRELY NORMAL WAY.

FOR STEPTOE AND EDWARDS, THE APPARENT SUCCESS OF THEIR EXPERIMENT WAS A LONG-SOUGHT MIRACLE: IN DOZENS OF PREVIOUS TRANSFERS OF EXTERNALLY FERTILIZED EGGS, THEIR EMBRYOS HAD ALWAYS DIED IN A MATTER OF DAYS OR WEEKS. TO MANY OTHER DOCTORS, INCLUDING RIVAL RESEARCHERS, THE FEAT WAS A STUNNING CLINICAL ACHIEVEMENT. IF THE BABY IS BORN NORMAL AND HEALTHY, THEY POINTED OUT, IT WILL GIVE NEW HOPE TO WOMEN WHO HAVE BEEN UNABLE TO CONCEIVE BECAUSE OF TUBAL DIFFICULTIES. THE NUMBER OF WOMEN WHO MIGHT BE SO AFFLICTED IS BY NO MEANS INSIGNIFICANT. IN THE U.S. ALONE, AS MANY AS 10 PERCENT OF ALL WOMEN OF CHILD-BEARING AGE SOME 000,000 WOMEN ARE INFERTILE BECAUSE OF BLOCKED TUBES THAT CANNOT BE SURGICALLY REPAIRED.

FOR MANY SCIENTISTS, THERE WERE EVEN MORE SWEEPING RAMIFICATIONS. THEY NOTED THAT IN VITRO FERTILIZATION TECHNIQUES MAY GIVE RESEARCHERS AN IMPORTANT NEW LABORATORY TOOL FOR DEVISING WAYS OF COPING WITH GENETIC DISEASES, TESTING NEW METHODS OF CONTRACEPTION AND, PERHAPS MOST IMPORTANT OF ALL, STUDYING CLOSE UP ONE OF NATURE'S MOST AWESOME AND STILL BAFFLING PROCESSES: THE FIRST STIRRINGS OF LIFE. SAID ONE LEADING FERTILITY RESEARCHER, DR. CARL PAUERSTEIN OF THE UNIVERSITY OF TEXAS, OF THE BRITISH WORK: "IT HAS THE POTENTIAL FOR ADDING GREATLY TO THE KNOWLEDGE OF THE REPRODUCTIVE BIOLOGY OF OUR SPECIES."

OTHER RESEARCHERS TOOK A FAR MORE SKEPTICAL OF GOING BEYOND HERE IN VITRO FERTILIZATION TO THE ACTUAL IMPLANTATION OF THE DEVELOPING EMBRYO IN THE UTERUS. "THE POTENTIAL FOR MISADVENTURE IS UNLIMITED," SAID DR. JOHN MARSHALL, HEAD OF OBSTETRICS AND GYNECOLOGY AT LOS ANGELES'S HARBOR GENERAL HOSPITAL, WHO WONDERED HOW SURE ANYONE COULD BE THAT THE BROWN'S BABY WILL NOT BE DEFORMED. "WHAT IF WE GOT AN OTHERWISE PERFECTLY FORMED INDIVIDUAL THAT WAS A CYCLOPS? WHO IS RESPONSIBLE: THE PARENTS? THE DOCTOR? IS THE GOVERNMENT OBLIGATED TO TAKE CARE OF IT?" THERE WAS ALSO WIDESPREAD CRITICISM OF THE SECRECY IN WHICH THE WORK OF STEPTOE AND EDWARDS WAS CONDUCTED. THE UNIVERSITY OF PENNSYLVANIA'S DR. LUIGI MASTROIANNI, WHO HAS HIMSELF FERTILIZED EGGS IN VITRO BUT NEVER ATTEMPTED TO REIMPLANT THEM, COMPLAINED THAT THE BRITISH RESEARCHERS HAD NOT PROVIDED ANY DETAILS ABOUT THE CONDITION OF MRS. BROWN'S FALLOPIAN TUBES. "IF THEY ARE COMPLETELY ABSENT," SAID MASTROIANNI, "YOU MUST ACCEPT THE FACT THAT THE EGG WAS FERTILIZED IN VITRO. BUT IF THEY ARE JUST DAMAGED, THERE'S ALWAYS THE POSSIBILITY THAT THE EGG MAY ACTUALLY HAVE BEEN

PERTILIZED IN VIVO (IN THE BODY) THAT THE TUBES MAY HAVE  
FUNCTIONED AGAIN." SIR JOHN STALLWORTHY, PRESIDENT OF THE  
BRITISH MEDICAL SOCIETY'S BOARD OF SCIENCE, AGREED THAT SO  
SENSATIONAL A CLAIM "REQUIRES IRREFUTABLE PROOF."

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Title

IN AN EVEN BROADER AND DEEPER INDICTMENT, SOME THOUGHTFUL  
OBSERVERS SAW THE WORK AS STILL ANOTHER OMINOUS STEP TOWARD  
FURTHER CONTROL AND MANIPULATION OF BASIC LIFE PROCESSES ONE  
THAT IS COMPARABLE PERHAPS TO THERECENTLY ACQUIRED ABILITY  
OF MOLECULAR BIOLOGISTS TO REARRANGE AND RECOMBINE THE GENES  
OF DIFFERENT CREATURES AND EVEN TO CREATE NEW LIFE FORMS.  
THESE CRITICS ARE NOT REALLY WORRIED ABOUT THE IMMINENCE OF  
HUXLEY-STYLE BABY HATCHERIES THAT PRODUCE EVERYTHING FROM  
SUPERBRAINY "ALPHAS" TO DRONE-LIKE "EPSILONS". AFTER  
ALL, SAYS ONE RESEARCHER, "THESE TEST-TUBE BABIES ARE NOT  
GOING TO BE POPPING OUT LIKE PEANUTS." WHAT CONCERNS THE  
CRITICS ARE THE FAR-RANGING SOCIAL, ETHICAL AND LEGAL  
REPERCUSSIONS. IN THE WORDS OF NOBEL LAUREATE JAMES WATSON,  
SUCH WORK CARRIES THE POTENTIAL FOR "ALL SORTS FOR BAD  
SCENARIOS." WHAT, FOR INSTANCE, COULD PREVENT A SCIENTIST  
FROM TAKING A FERTILIZED EGG FROM ONE WOMAN, WHO PERHAPS DID  
NOT WANT TO CARRY HER OWN BABY, AND IMPLANTING IT IN THE  
WOMB OF A SURROGATE MOTHER. WHO THEN WOULD BE THE CHILD'S  
LEGAL MOTHER? OR, IN THE THE WORDS OF AN OLD MEDICAL JOKE,  
"WHICH ONE GETS THE MOTHER'S DAY CARD?"

BY A STRIKING COINCIDENCE, THE FIRST LEGAL REVERBERATIONS  
FROM TEST-TUBE FERTILIZATION WERE ALREADY BEING FELT LAST  
WEEK ACROSS THE ATLANTIC. IN U.S. DISTRICT COURT IN NEW  
YORK, A JURY OF FOUR WOMEN AND TWO MEN WAS HEARING THE  
SECOND WEEK OF TESTIMONY IN AN EXTRAORDINARY DLRS1.5 MILLION  
DAMAGE SUIT AGAINST MANHATTAN'S COLUMBIA-PRESBYTERIAN  
MEDICAL CENTER AND ITS CHIEF OF OBSTETRICS, DR. RAYMOND  
VANDE WIELE. THE ACTION WAS BROUGHT BY A FORT LAUDERDALE,

FLA., DENTIST, DR. JOHN DEL ZIO, 59, AND HIS SECOND WIFE, DORIS, 34. IN 1972, MRS. DEL ZIO, WHO HAD APPARENTLY HAD BEEN UNABLE TO CONCEIVE BECAUSE OF TUBAL PROBLEMS, AGREED TO LET A FORMER COLUMBIA RESEARCHER, DR. LANDRUM SHETTLES, REIMPLANT IN HER WOMB AN EGG FERTILIZED EXTERNALLY BY HER HUSBAND'S SPERM. BUT UPON LEARNING OF THE EXPERIMENT IN HIS DEPARTMENT, VANDE WIELE PROMPTLY KILLED THE EGG, CONTENDING, AMONG OTHER THINGS, THAT THE PROCEDURE WAS RISKY, THAT SHETTLES LACKED THE SKILLS TO UNDERTAKE IT AND THAT IT HAD NOT BEEN APPROVED BY THE HOSPITAL'S ETHICS COMMITTEE.

IN EMOTIONAL, SOBBING TESTIMONY, MRS. DEL ZIO CHARGED THAT THE VANDE WIELE'S ACTION ROBBED HER OF A CHANCE TO HAVE A CHILD BY HER CURRENT HUSBAND SHE HAD TWO CHILDREN IN A PREVIOUS MARRIAGE BEFORE THE TUBAL PROBLEMS DEVELOPED AND DAMAGED HER BOTH PHYSICALLY AND PSYCHOLOGICALLY, UPSET HER SEX LIFE AND JEOPARDIZED HER MARRIAGE. IN REBUTTAL, EXPERT WITNESSES FOR THE DEFENSE HAVE QUESTIONED WHETHER THE FLAMBOYANT SHETTLES, WHO HAS SINCE BEEN DISMISSED FROM THE HOSPITAL, EVER MANAGED TO FERTILIZE MRS. DEL ZIO'S EGG OR WHETHER HIS OTHER CLAIMS OF IN VITRO FERTILIZATION ARE VALID. COMPARING SHETTLES' WORK TO THE BRITISH CASE, THE DEFENSE LAWYERS SCORNFULLY SAID THAT IT WAS AS DIFFERENT FROM THE ACHIEVEMENT OF STEPTOE AND EDWARDS AS "A MODEL T FORD IS FROM A PORSCHE." HOWEVER THAT MAY BE, THE COURTROOM HISTORIONICS TENDED TO OBSCURE THE REAL QUESTIONS IN THE CASE: WAS VANDE WIELE'S ACTION WHICH HE FREELY ADMITS MEDICALLY AND LEGALLY JUSTIFIABLE AND DID MRS. DEL ZIO'S EMOTIONAL AND PHYSICAL PROBLEMS STEM FROM ANY TRAUMA SHE MIGHT HAVE SUFFERED FROM LEARNING OF THE DESTRUCTION OF HER PURPORTEDLY FERTILIZED OVA. SHOULD THE JURY FIND FOR MRS. DEL ZIO, DOCTORS WILL HAVE INVOLVED IN SUCH EXPERIMENTS WILL

HAVE TO THINK TWICE ABOUT THEIR LEGAL LIABILITIES BEFORE BEING INVOLVED IN SUCH EXPERIMENTS.

PERHAPS BECAUSE OF PAST DIFFICULTIES WITH THEIR OWN RESEARCH, AS WELL AS THE CONTROVERSIES THAT IT HAS SPANNED, STEPTOE AND EDWARDS HAD REMAINED MUM ABOUT THEIR SUCCESSFUL IMPLANTING AND THE IMPENDING BIRTH. EVEN THOUGH FERTILITY EXPERTS ROUND THE GLOBE WERE AWARE OF THEIR GOALS, NO ANNOUNCEMENT WAS FORTHCOMING FROM THE BRITISH RESEARCHERS UNTIL MID-JULY, WHEN REPORTERS CLOSING IN ON THE STORY FORCED THEM TO ACKNOWLEDGE THAT THE BIRTH OF A TEST TUBE BABY WAS IMMINENT. EVEN SO, STEPTOE AND EDWARDS WERE RELUCTANT TO GIVE ANY DETAILS. THEY EVEN WITHHELD THEIR PATIENT'S NAME FOR FEAR, THEY CONTENDED, THAT THE MOTHER MIGHT NOT BE ABLE TO WITHSTAND THE PRESSURE OF ALL THE PUBLIC PRYING. YET, AS ENTERPRISING JOURNALISTS PURSUED THE STORY, INFORMATION SLOWLY DRIBBLED OUT. SOME OF IT, TO BE SURE, CAME DIRECTLY FROM THE FAMILY AND DOCTORS THROUGH THE DAILY MAIL, UNDER THE SYNDICATION DEAL, BUT OTHER FACTS WERE UNEARTHED BY REPORTERS IN OLDHAM WHO USED 20-POUND NOTES TO LOOSEN THE LIPS OF ANYONE EVEN REMOTELY CONNECTED WITH THE CASE.

*In Every Arnold described*

IN THESE ACCOUNTS, MRS. BROWN IS DESCRIBED AS A PRETTY, WELL-BUILT WOMAN OF 5 FT. 5 IN. WHO WEARS HER BROWN HAIR IN A PAGE-BOY CUT. IN HER TURQUOISE-BLUE HOSPITAL ROOM, SHE OFTEN LOUNGES IN AN EASY CHAIR, WEARING A BROWN-AND-WHITE, BELL-SLEEVED HOUSECOAT. SHE SPENDS MUCH OF HER TIME MAKING TELEPHONE CALLS, DOING PUZZLES, KNITTING, NIBBLING ON MINTS AND EATING ORDINARY HOSPITAL FOOD (A TYPICAL LUNCH: STEAK, KIDNEY PIE AND MASHED POTATOES FOLLOWED BY FRUIT TART). OCCASIONALLY SHE HAS BECOME WEEPY AND DEPRESSED AND WAS BRIEFLY WORRIED, UNTIL REASSURED BY OTHER EXPECTANT MOTHERS, ABOUT THE SEEMINGLY SMALL SIZE OF THE BABY IN RELATION TO

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THE WEEKS OF PREGNANCY, STEPTOE APPARENTLY TRIED TO GET HER TO STOP SMOKING, BUT SHE STILL SNEAKS AN OCCASIONAL CIGARETTE. PRESUMABLY, SHE KNOWS OF ALL THE CONCERN ABOUT HER AND HER BABY BECAUSE SHE HAS A TELLY AND RADIO IN HER ROOM. FROM HER WINDOW, SHE CAN SEE THE GARDEN OF THE HOSPITAL'S CHILDREN'S UNIT WITH ITS GAILY COLORED SWINGS, WHIRLING MERRY-GO-ROUNDS AND PLAYFUL YOUNGSTERS. ASKED HOW MRS. BROWN WAS, A NURSE REPORTED THAT "SHE JUST FEELS LIKE ANY OTHER MOTHER-TO-BE; TIRED, FED UP AND FAT."

BEFORE THE BROWNS BECAME OBJECTS OF INTERNATIONAL INTEREST, LESLEY AND HER HUSBAND LIVED QUIETLY IN A TOURQUOISE-TRIMMED, WHITE ROW HOUSE IN EASTON, A SUBURB OF BRISTOL, ABOUT 00 MILES FROM OLDHAM. "EVER SUCH A NICE COUPLE," SAY NEIGHBORS. JOHN BROWN APPARENTLY LIKES FEW THINGS BETTER THAN TO TINKER WITH HIS AUTOMOBILE AND, EVEN BEFORE THE CURRENT FUROR, KEPT LARGELY TO HIMSELF. SAYS A FRIEND: "HE IS A VERY POLITE BLOKE, I DON'T THINK HE SOCIALIZES WITH A LOT OF PEOPLE." THE BROWNS, WHO LIVE TOGETHER IN THE HOUSE WITH JOHN'S 16-YEAR-OLD DAUGHTER BY A PREVIOUS MARRIAGE, ARE HARDLY RECLUSES. BEFORE LESLEY BROWN WAS SEQUESTERED IN THE HOSPITAL FOR ROUND-THE-CLOCK MONITORING, SHE TALKED FREELY WITH NEIGHBORS ABOUT HER PREGNANCY. JOHN, TOO, SEEMED DELIGHTED WITH THE TURN OF EVENTS. BUT, RECALLS ONE SURPRISED NEIGHBOR, "I NEVER KNEW THERE WAS ANYTHING UNUSUAL."

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MANY SCIENTISTS SHARED THAT SURPRISE. FOR YEARS, THEY HAVE TALKED ABOUT FERTILIZING THE HUMAN EGG IN A TEST TUBE AND IMPLANTING IT IN THE UTERUS. BUT WITH EVERY CLAIM OF SUCCESS HAS COME THE INEVITABLE COUNTERCURRENT OF DOUBT. INDEED, AS EARLY AS THE 1940S, THE EMINENT BOSTON GYNECOLOGIST, DR. JOHN ROCK ONE OF THE PIONEERS IN THE DEVELOPMENT OF THE BIRTH CONTROL PILL REPORTED THAT HE AND

HIS HARVARD COLLEAGUES HAD MANAGED TO FERTILIZE AN EGG IN VITRO. BUT OTHER SCIENTISTS BELIEVE THAT THE FEW CELL DIVISIONS OBSERVED BY ROCK WERE NOTHING MORE THAN "PARTHENOGENIC CLEAVAGE" (DIVISION OF THE UNFERTILIZED EGG), PROBABLY INDUCED BY THE ARTIFICIAL STIMULATION OF THE OVUM DURING THE ATTEMPTED FERTILIZATION. SCIENTISTS WERE SIMILARLY SKEPTICAL OF CLAIMS BY SHETTLES IN THE 1950S THAT HE HAD BROUGHT AN EXTERNALLY FERTILIZED HUMAN EGG INTO THE SIXTH DAY OF CELL DIVISION AND BY A CONTROVERSIAL ITALIAN SCIENTIST, DANIELE PETRUCCI, WHO A FEW YEARS LATER ANNOUNCED THAT HE HAD KEPT ALIVE AN EMBRYO IN THE TEST-TUBE FOR 29 DAYS. THE EMBRYO WAS DESTROYED, PETRUCCI SAID, ONLY AFTER THE VATICAN CONDEMNED HIS WORK.

NOT UNTIL THE MID-1960S DID RESEARCHERS FINALLY ACHIEVE THE SKILLS TO PRODUCE ON IN VITRO FERTILIZATION OF MAMMALIAN EGGS ON A REGULAR BASIS. NOTABLE AMONG THEM WAS H. C. CHANG OF THE WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY IN SHREWSBURY, MASS. AND WHO, WHO SOLVED THE PROBLEM OF IN VITRO CAPITATION OF THE SPERM, A PROCESS THAT ENABLED SPERM TO PENETRATE THE EGG IN THE LABORATORY. BUT MOST OF THIS WORK INVOLVED CREATURES NO HIGHER THAN RABBITS, HAMSTERS, RATS AND MICE.

FINALLY, STEPTOE ANNOUNCED THAT HE HAD ACCOMPLISHED THE SAME FEAT WITH HUMAN EGGS. HIS REPORT CREATED A WORLDWIDE SENSATION, AND DREW THE FIRE OF MANY CHURCH AUTHORITIES. TRYING TO ALLAY FEARS THAT HE WAS ACTUALLY TRYING TO RAISE BABIES OUTSIDE THE WOMB, STEPTOE INSISTED THAT HIS TRUE GOAL WAS QUITE DIFFERENT. SAID HE: "ALL THAT I AM INTERESTED IN IS HOW TO HELP WOMEN WHO ARE DENIED A BABY BECAUSE THEIR TUBES ARE INCAPABLE OF DOING THEIR SHALL PART." THE SCIENTIFIC JOURNAL NATURE PROMPTLY CAME TO HIS DEFENSE: "THESE ARE NOT PERVERTED MEN IN WHITE

COATS DOING NASTY EXPERIMENTS ON HUMAN BEINGS, BUT REASONABLE SCIENTISTS CARRYING OUT PERFECTLY JUSTIFIABLE RESEARCH. 00

APPEARING BEFORE A BRITISH MEDICAL MEETING IN 1973, ANOTHER ENGLISH SCIENTIST, DR. DOUGLAS BEVIS, ALMOST CASUALLY DROPPED AN EVEN BIGGER BOMBSHELL. HE CLAIMED NOT ONLY THAT HE HAD MANAGED TO FERTILIZE HUMAN EGGS IN THE TEST TUBE, BUT THAT HE HAD SUCCESSFULLY IMPLANTED OVA IN AT LEAST THREE WOMEN WHO SUBSEQUENTLY GAVE BIRTH. WHEN HE PROVED UNWILLING OR UNABLE TO DOCUMENT HIS CLAIMS, BEVIS WAS ROUNDLY DENOUNCED. SHATTERED BY THE CRITICISM, HE SOON VOWED THAT HE WAS GIVING UP ALL SUCH RESEARCH. EVEN NOW, NO ONE REALLY KNOWS WHETHER BEVIS WAS A FRAUD OR A VICTIM OF THE FURIOUS SCIENTIFIC COMPETITION BETWEEN RIVAL FERTILITY RESEARCHERS. IN ANY CASE, THE BEVIS CASE SHARPLY INCREASED THE PUBLIC CONCERN AND BROUGHT VOCIFEROUS RIGHT-TO-LIFELIFE ADVOCATES INTO THE FRAY. THEY EQUATED THE FERTILIZATION EXPERIMENTS AND THE DESTRUCTION OF ACTIVE OVA OFTEN INVOLVED IN THEM WITH OUTRIGHT ABORTIONS OF FAR MORE DEVELOPED FETUSES.

THE CLAMOR HAD ITS EFFECT. RESEARCHERS LIKE STEPTOE AND EDWARDS, IN AN EFFORT TO STAY OUT OF THE LIMELIGHT, MADE FEWER AND FEWER REPORTS ON THE PROGRESS OF THEIR WORK. IN THE U.S., ALMOST ALL RESEARCH WITH HUMAN EGGS CAME TO AN ABRUPT HALT IN 1975 WHEN, UNDER A FEDERAL ORDER, THE NATIONAL INSTITUTES OF HEALTH WAS BARRED FROM FUNDING ANY HUMAN FERTILIZATION EXPERIMENTS UNLESS THEY WERE FIRST APPROVED BY A NATIONAL ETHICS BOARD TO BE APPOINTED BY THE HEALTH, EDUCATION AND WELFARE SECRETARY. PERHAPS BECAUSE IT INVOLVED SUCH A TOUCHY SUBJECT, HEW SECRETARY JOSEPH CALIFANO DID NOT GET AROUND TO FORMING THE PANEL UNTIL THIS YEAR. ONE OF ITS FIRST ORDERS OF BUSINESS: TO WEIGH THE

LONG-PENDING APPLICATION FOR FUNDS FROM A VANDERBILT UNIVERSITY FERTILITY RESEARCHER, PIERRE SOUPART, HIS OBJECTIVE: TO RESUME TESTS, SUSPENDED IN 1975, THAT ARE DESIGNED TO SHOW IF THERE IS ANY INCREASED RISK OF CHROMOSOMAL ABNORMALITIES WHEN HUMAN EGGS ARE FERTILIZED IN THE TEST-TUBE RATHER THAN IN THE BODY. COMMENTING ON THE DELAYS FORCED UPON AMERICAN RESEARCHERS BY WHAT IS, IN EFFECT, AN UNOFFICIAL FEDERAL MORATORIUM, U.C.L.A. OBSTETRICIAN JAROSLAV MARKIK BITTERLY NOTES THAT 'IF ALL THE PULLS AND PRESSURES HAD NOT BEEN APPLIED TO RESEARCHERS IN THE U.S., THERE MIGHT BE AN AMERICAN WOMAN NOW ABOUT TO DELIVER (A TEST-TUBE BABY).''

PERHAPS SO, BUT THE SKILLS AND KNOWHOW OF THE STEPTOE-EDWARDS TEAM ARE ALMOST UNIVERSALLY ACCLAIMED, EVEN IF ITS INCLINATION TOWARD SECRECY IS NOT. THE SILVER-HAIRED AND ELEGANT STEPTOE IS AN ACCOMPLISHED GYNECOLOGIST AND A PIONEER IN THE USE OF LAPAROSCOPY A TECHNIQUE FOR EXPLORING THE INTERIOR OF THE REPRODUCTIVE TRACT WITH A NEEDLE-THIN TELESCOPE EQUIPPED WITH A FIBER OPTICS LIGHT. HE IS AN IMPECCABLE DRESSER, ENJOYS CRICKET AND IS AN ACCOMPLISHED ORGANIST WHO CHORAL PRELUDES AND BACH AT A LOCAL CHURCH. IN THE WORDS OF A COLLEAGUE, HE IS ALSO 'A MAN OF CHARACTER AND DETERMINATION WHO IF SOMEONE IS SPEAKING NONSENSE IS PERFECTLY WILLING TO SAY SO.' HIS PARTNER EDWARDS, WHO IS THE FATHER OF FIVE DAUGHTERS, IS NO LESS ACCOMPLISHED IN HIS OWN FIELD THE PHYSIOLOGY OF FERTILIZATION AND JUST AS DEDICATED. BRITISH NEWSPAPERS REPORT THAT IN TRANSPORTING FERTILIZED EGGS FROM HIS LAB AT CAMBRIDGE TO OLDHAM, HE IMPLANTS THEM IN A RABBIT TO KEEP THEM AT THE RIGHT TEMPERATURE. PLACES THE RABBIT IN A ON THE PASSENGER SEAT OF HIS CAR AND DRIVES TO THE HOSPITAL. AT CAMBRIDGE, HE OFTEN RETURNS TO THE PHYSIOLOGY DEPARTMENT

*watching*

*Sept 21*

*Box*

*Has been taken*

AT NIGHT, SCALES A WALL, AND SLIPS INTO HIS LABORATORY TO SEE IF FERTILIZED EGGS ARE STILL ALIVE.

THOSE QUALITIES ARE SURELY AS ESSENTIAL IN THEIR DIFFICULT FIELD AS ARE FLASKS, HORMONES AND MICROSCOPES. THOUGH MAN HAS WONDERED ABOUT HUMAN REPRODUCTION SINCE THE DAWN OF HISTORY, IT REMAINS, IN MANY RESPECTS, AS MYSTERIOUS SOME WOULD EVEN SAY AS MYSTICAL AS EVER. AT BIRTH, THE INFANT HUMAN FEMALE IS ENDOWED WITH AS MANY AS TWO MILLION IMMATURE EGGS, MANY TIMES MORE THAN SHE WILL EVER NEED DURING HER 30 OR SO CHILD-BEARING YEARS, STARTING AT PUBERTY, THESE EGGS ARE RELEASED, USUALLY ONE AT TIME, ABOUT MIDWAY IN THE MENSTRUAL CYCLE. THE PROCESS IS A MARVEL TO BEHOLD. STIMULATED BY HORMONES THE BODY'S CHEMICAL SIGNALING SYSTEM THE RIPE EGG BREAKS OUT OF ITS BAGLIKE ENCASEMENT, OR FOLLICLE, IN THE OVARY. IN ANY MONTH, EITHER OF THE FEMALE'S TWO OVARIES MAY CONTRIBUTE AN OVUM. THEN THE EGG ENTERS THE NEARBY FALLOPIAN TUBE, OR OVIDUCT. IF COITUS HAS TAKEN PLACE, THE TRAVELING EGG WILL SHORTLY ENCOUNTER SOME OF THE LONGTAILED SPERM THAT HAVE MANAGED, LIKE SALMON BATTLING UPSTREAM, TO FIGHT THEIR WAY INTO THIS PASSAGEWAY. IN A DRAMATIC HEADLONG PLUNGE, THE SINGLE MOST AGGRESSIVE AND ABLE OF THESE SPERM WILL PENETRATE THE WAITING OVUM, CONTRIBUTING ITS 23 CHROMOSOMES TO THE EGG'S 23. THAT PRODUCES THE FULL COMPLEMENT OF 46 CHROMOSOMES, WHICH CONTAIN ALL THE GENETIC INSTRUCTIONS NECESSARY TO PRODUCE A COMPLETE HUMAN BEING.

PROPELLED BY CURRENTS AND CONTRACTIONS, THE EGG WILL NOW DESCEND, DIVIDING AS IT MOVES DOWN THE OVIDUCT. FINALLY, AFTER SEVERAL DAYS, IT WILL HAVE BECOME A HOLLOW, BALL-SHAPED CLUSTER OF ABOUT 100 CELLS, CALLED A BLASTOCYST. BY NOW, IT WILL HAVE REACHED THE UTERUS, THERE THE CELLS IMBED THEMSELVES IN THE UTERINE WALL, WHERE THEY BEGIN TO

DRAW FOR THE FIRST TIME NOURISHMENT FROM THE MOTHER AND START THE PROCESS OF DIFFERENTIATION: THE RAPID TRANSFORMATION OF UNIFORM CELLS INTO TISSUE THAT SOON BECOMES RECOGNIZABLE AS HEART, BRAIN, MUSCLE, KIDNEYS AND ALL THE OTHER COMPONENTS OF A LIVING, SELF-SUFFICIENT BEING.

YET THE EGG'S JOURNEY IS PRECARIOUS. UNLESS THE PROPER HORMONES ARE RELEASED, SIGNALING THE BODY TO SET THE STAGE FOR OVULATION AND FERTILIZATION, THE INTRICATE CHAIN OF EVENTS WILL NOT BEGIN. THE EGG WILL NOT BURST FROM THE OVARY, THE VAGINAL MUCUS WILL REMAIN MUCH TOO STICKY AND ACIDIC FOR THE SURVIVAL OF MANY SPERM, AND THE BLOOD VESSELS OF THE UTERUS WILL NOT SWELL UP IN PREPARATION FOR RECEIVING THE FERTILIZED EGG. INDEED, HORMONAL DISORDERS AT ANY POINT IN THE SEQUENCE MAKE IT SO FRAUGHT WITH PERIL FOR EGGS AND SPERM AT LEAST 10 PERCENT OF ALL PREGNANCIES END EVEN BEFORE THE IMPLANTATION. AS DR. ALBERT DECKER OF THE NEW YORK FERTILITY RESEARCH FOUNDATION PUTS IT: "PREGNANCY IS NOT SIMPLE. WOMEN DO NOT GET PREGNANT AT THE DROP OF A HAT."

IN LESLEY BROWN'S CASE, THE DIFFICULTIES WERE NOT HORMONAL BUT TUBULAR. IN RECENT YEARS, SURGEONS HAVE MANAGED MINOR MIRACLES IN REPAIRING THE OVIDUCTS WITH PRECISE MICROSURGERY, BUT FOR MRS. BROWN THAT DID NOT APPEAR POSSIBLE. THE DOOR SEEMED TO BE TIGHTLY SHUT AGAINST ANY LIKELIHOOD OF PREGNANCY UNTIL SHE WAS REFERRED TO STEPTOE, WHO WITH EDWARDS HAD MADE MORE ATTEMPTS TO GET AROUND SUCH BLOCKAGES BY IN VITRO FERTILIZATION AND IMPLANTING TECHNIQUES THAN ANY OTHER RESEARCHER.

YET DESPITE THE LONG EXPERIENCE OF THE BRITISH TEAM, THE PROCEDURE HAD NEVER RESULTED IN A LIVE BIRTH. TO BRING IT OFF SUCCESSFULLY REQUIRES SCIENTIFIC INGENUITY, SURGICAL DEXTERITY AND, SOME MIGHT SAY, A LOT OF PLAIN LUCK. FOR ONE THING, THE DOCTOR MUST REMOVE THE EGG AT THE PRECISE TIME IN

THE MONTHLY CYCLE WHEN IT HAS REACHED MATURITY. TO ENSURE  
THE SUCCESS OF THAT CRUCIAL INITIAL STEP, STEPTOE AND  
EDWARDS FOLLOW A STANDARD PROCEDURE OF FERTILITY  
RESEARCHERS; THEY ADMINISTER FERTILITY HORMONES, LIKE THOSE  
THAT HAVE BEEN RESPONSIBLE FOR THE RASH OF MULTIPLE BIRTHS  
IN RECENT YEARS. THAT ENCOURAGES THE RIPENING OF SEVERAL  
EGGS AT ONE TIME. TO GET AT THE EGGS, STEPTOE DISPLAYS ALL  
HIS CONSIDERABLE SKILLS AT LAPORASCOPIY, OR ~~"BANDAID"  
LOCAL~~ SURGERY. UNDER ESTHESIA, AN INCISION IS MADE IN THE  
ABDOMIN. INERT GASES ARE PUMPED INTO THE WOMAN'S ABDOMINAL  
CAVITY TO EXPAND IT AND SEPARATE THE ORGANS, AND THE  
LAPAROSCOPE, OR VIEWING TELESCOPE, IS INSERTED TO SEEK OUT  
AN APPROPRIATE EGG. (IRONICALLY, EVEN THOUGH MODERN  
LAPAROSCOPY DEPENDS ON U.S.-INVENTED FIBER-OPTICS, THE  
TECHNIQUE WAS SLOW TO COME INTO USE IN THE U.S. BECAUSE  
DOCTORS FEARED IT COULD BE THE BASIS OF MALPRACTICE SUITS.)

*Steph*

*General*

UNLESS THE LIBERATED EGGS OR, FOR THAT MATTER, THE  
HUSBAND'S SPERM ARE KEPT AT THE RIGHT TEMPERATURE AND  
PRESSURE, AT THE PROPER LEVEL OF ACIDITY, FREE OF  
CONTAMINATION AND IN AN APPROPRIATE CULTURE MEDIUM, THEY  
WILL NOT SURVIVE LONG ENOUGH TO COMPLETE THE EXPERIMENT.  
EXPLAINS THE UNIVERSITY OF PENNSYLVANIA'S BENJAMIN G.  
BRACKETT, WHO HAS PERFORMED MANY SIMILAR TESTS: "YOU DON'T  
WANT THE EGGS TO SUSPECT THEY ARE OUT OF THE BODY." EQUALLY  
IMPORTANT, THE SPERM (WHICH ARE OBTAINED BY WHAT OR BY  
MASTURBATION INTO A FLASK) MUST BE PRIMED FOR FERTILIZATION  
OR, IN THE TECHNICAL TERM, CAPACITATED. THIS MEANS THAT  
THE CHEMICAL INHIBITOR PREVENTING THE SPERM FROM PENETRATING  
THE EGG MUST BE REMOVED FROM THE SURFACE OF THE SPERM. HOW  
THIS TRICK IS ACCOMPLISHED IN THE BODY REMAINS A PUZZLE.  
SOME SCIENTISTS THINK THAT THE WOMAN'S SECRETIONS DO THE  
JOB. BUT IN THE LAB SCIENTISTS USUALLY ARE ABLE TO PRIME THE

SPERM SIMPLY BY GENTLY BATHING THEM IN A SALT SOLUTION. THERE IS ALSO THE CRITICAL MATTER OF TIMING; THE EGGS ARE READY FOR FERTILIZATION WITHIN THREE OR FOUR HOURS AFTER THEIR REMOVAL FROM THE WOMAN'S BODY. THEY REMAIN VIABLE FOR ONLY EIGHT HOURS. SPERM HAVE A LIFETIME OF ONLY ABOUT 48 HOURS. SO EGG AND SPERM MUST BE QUICKLY BROUGHT TOGETHER.

EVEN AFTER FERTILIZATION, THE SCIENTISTS HAVE NO ASSURANCE THAT THE EGG WILL DIVIDE. AGAIN THE CULTURE MEDIUM MUST BE CAREFULLY CONTROLLED. INDEED, IT HAS BEEN FOUND THAT HIGHEST RATE OF SUCCESS USUALLY OCCURS WHEN THE CONTENT OF THE SOLUTION IS CONTINUALLY ALTERED AS THE CELLS KEEP DOUBLING. FINALLY, WHEN THE EGG HAS REACHED THE BLASTOCYST STAGE, IT IS READY FOR IMPLANTING. THIS IS DONE BY PICKING UP THE EGG WHICH IS STILL NO BIGGER THAN THE DOT AT THE END OF THIS SENTENCE WITH A TINY HOLLOW TUBE, OR PIPETTE, INSERTING IT THROUGH THE CERVIX AND INTO THE UTERUS WHERE, IF ALL GOES WELL, IT WILL IMPLANT ITSELF IN THE UTERINE WALL. SEVERAL WEEKS MUST THEN PASS BEFORE THE DOCTORS KNOW IF THEIR PATIENT IS INDEED PREGNANT.

SINCE THE BEGINNING OF THEIR PARTNERSHIP IN 19XX, STEPTOE AND EDWARDS ARE BELIEVED TO HAVE ATTEMPTED IN VITRO FERTILIZATION AND IMPLANTATION IN WOMEN. THE RATE OF SUCCESS IN FERTILIZING THE EGGS IS ESTIMATED TO BE ABOUT 30PERCENT. SUCCESSFUL IMPLANTATION IS EVEN MORE DIFFICULT. IN 1976, STEPTOE AND EDWARDS REPORTED THAT A FETUS HAD SURVIVED THROUGH THE WEEK OF PREGNANCY. WHEN SOUPART VISITED THEM LAST OCTOBER JUST BEFORE THE BROWN CASE, STEPTOE AND EDWARDS TOLD HIM THAT OF THE 60 IMPLANTS THAT TOOK, ONLY THREE SHOWED ANY SIGNS OF LONGEVITY. WHY THE DIFFICULTY? SOUPART SAYS THAT THERE ARE AT LEAST THREE REASONS FOR FAILURE: 1) DIFFICULTIES IN HANDLING THE TINY EGG. 2) UNDETECTED CHROMOSOMAL ABNORMALITIES THAT DOOM THE

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EGG BEFORE IT HAS A CHANCE TO IMPLANT ITSELF. AND 3) INTERFERENCE IN THE ACCEPTANCE OF THE EGG BY THE VERY HORMONES THAT WERE USED TO ENCOURAGE OVULATION.

ACCORDING TO THE THE BRITISH NEWSPAPERS, ALL THESE CRITICAL STEPS IN THE BROWN CASE THE REMOVAL OF THE EGGS, FERTILIZATION IN THE LABORATORY AND THE REIMPLANTATION TOOK PLACE IN LATE OCTOBER OR EARLY NOVEMBER. THE SITE OF THE WORK WAS APPARENTLY A SMALL, TURN-OF-THE-CENTURY INSITUATION CALLED DR. KERSHAW'S COTTAGE HOSPITAL, SET AMID GREEN FIELDS ABOUT A MILE FROM OLDHAM, AS KERSHAW'S CONSULTING GYNECOLOGIST, STEPTOE HAS DONE MUCH OF HIS FERTILIZATION WORK THERE. HE USES FOUR ROOMS, PLUS A SMALL ADJOINING OPERATING THEATER THAT IN KEEPING WITH HIS PENCHANT FOR SECRECY ARE ALL PROTECTED BY LOCKS, SLIDING DOORS AND A RED WARNING LIGHT. STEPTOE, WHO SOME CRITICS IRONICALLY NOTE IS ABLE TO PURSUE HIS EXPENSIVE FERTILITY WORK IN PART BECAUSE OF HIS EARNINGS FROM ABORTIONS, SOON HOPES TO MOVE TO LARGER FACILITIES AND DREAMS OF EVENTUALLY BUILDING A CENTER FOR REPRODUCTIVE STUDIES.

Dr. Kershaw's

No

FROM THE VERY START, THE TREATMENT OF LESLEY BROWN WENT EXTREMELY WELL. AFTER HER TREATMENT, SHE APPARENTLY QUICKLY PRODUCED SEVERAL RIPE EGGS. AFTER THESE OVA WERE FERTILIZED, STEPTOE AND EDWARDS CHOSE THE ONE THEY THOUGHT TO BE THE BEST AND, FROM CHROMOSOMAL EXAMINATION, EVEN DETERMINED ITS SEX. LESLEY, HOWEVER, INSISTED ON NOT BEING TOLD. SHE EXPLAINED: "I'VE BEEN WAITING TOO LONG FOR THIS TO BE DENIED THE SURPRISE OF LEARNING WHETHER THE BABY IS A BOY OR GIRL AT BIRTH." ONCE IT WAS ESTABLISHED THAT SHE WAS PREGNANT, MRS. BROWN WAS SENT TO THE MORE SPACIOUS AND BETTER EQUIPPED MATERNITY WING AT OLDHAM, THERE SHE PRESUMABLY UNDERWENT ALL THE MOST ADVANCED TESTING: ULTRASONIC SCREENING TO CHECK THE POSITION AND STRUCTURE OF

THE FETUS, THE MONITORING OF HORMONE LEVELS, AND THE WITHDRAWAL OF AMNIOTIC FLUID FROM THE WOMB TO DETERMINE WHETHER THE CHILD HAD DOWN'S SYNDROME (MONGOLOIDISM), THE CONGENITAL MALFORMATION CALLED SPINA BIFA OR OTHER BIRTH DEFECTS. HAD THE DOCTORS DETECTED ANY SERIOUS PROBLEMS, LESLEY BROWN COULD HAVE QUICKLY BEEN ABORTED. OBSERVED DR. STUART J. STEELE, A FERTILITY EXPERT AT LONDON'S MIDDLESEX HOSPITAL MEDICAL SCHOOL; "MRS. BROWN WOULD HAVE HAD ALL THE VERY CLOSE MEDICAL SUPERVISION THAT ONE WOULD EXPECT IN A PARTICULARLY PRECIOUS PREGNANCY."

HOW THAT PRECIOUS PREGNANCY TURNS OUT WILL SHORTLY BE KNOWN. STEPTOE AND EDWARDS, FOR THEIR PART, MUST SURELY FEEL THAT THE PROSPECTS ARE EXTREMELY GOOD. OTHERWISE THESE EXPERIENCED RESEARCHERS WOULD NEVER HAVE ALLOWED THE PREGNANCY TO GO SO FAR, AT SUCH HIGH RISK TO BOTH MOTHER AND CHILD TO SAY NOTHING OF THEIR OWN PROFESSIONAL REPUTATIONS. YET ON THE EVE WHAT MAY WELL BE A HISTORIC BIRTH, THERE ARE ALSO STILL MANY UNANSWERED QUESTIONS. FOR THE BROWN FAMILY, IT IS WHETHER THEIR TEST-TUBE CHILD IS HEALTHY AND CAN EVER HOPE TO HAVE ANYTHING RESEMBLING A NORMAL LIFE. FOR THE DOCTORS, IT IS WHETHER THEY HAVE PUSHED MEDICINE TO A NEW FRONTIER OR SET IT DRAMATICALLY BACK BY CREATING A MEDICAL DISASTER. FOR THE WORLD AT LARGE, IT IS WHETHER DOCTORS SHOULD BE FREE TO CONTINUE SUCH DARING EXPLOITS OR WHETHER NEW RESTRAINTS SHOULD BE IMPOSED ON THEM TO KEEP THEM FROM VENTURING SO PRECIPITOUSLY INTO THE UNKNOWN. IN THE COMING DAYS, SOME ANSWERS SHOULD BE FORTHCOMING FROM THE RED-BRICK HOSPITAL IN OLDHAM.

DN/7:07P