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NEW LIGHT ON THE PLIGHT OF WINTER BABIES

CHILDREN BORN IN THE WINTER MONTHS ALREADY HAVE A FEW STRIKES AGAINST THEM. STUDY AFTER STUDY HAS SHOWN THAT THEY TEST POORLY, DON'T GET AS FAR IN SCHOOL, EARN LESS, ARE LESS HEALTHY, AND DON'T LIVE AS LONG AS CHILDREN BORN AT OTHER TIMES OF YEAR. RESEARCHERS HAVE SPENT YEARS DOCUMENTING THE EFFECT AND TRYING TO UNDERSTAND IT.

BUT ECONOMISTS KASEY BUCKLES AND DANIEL HUNGERMAN AT THE UNIVERSITY OF NOTRE DAME MAY HAVE UNCOVERED AN OVERLOOKED EXPLANATION FOR WHY SEASON OF BIRTH MATTERS.

THEIR DISCOVERY CHALLENGES THE VALIDITY OF PAST RESEARCH AND HIGHLIGHTS HOW SEEMINGLY SAFE ASSUMPTIONS ECONOMISTS MAKE MAY OVERLOOK KEY CAUSES OF CURIOUS EFFECTS. AND THEY CAME ACROSS IT BY ACCIDENT.

IN 2007, MR. HUNGERMAN WAS DOING RESEARCH ON SIBLING BEHAVIOR WHEN HE NOTICED THAT CHILDREN IN THE SAME FAMILIES TEND TO BE BORN AT THE SAME TIME OF YEAR. MEANWHILE, MS. BUCKLES WAS EXAMINING THE ECONOMIC FACTORS THAT LEAD TO MULTIPLE BIRTHS, AND COMING ACROSS WHAT LOOKED LIKE A RELATIONSHIP BETWEEN MOTHERS' EDUCATION LEVELS AND WHEN CHILDREN WERE BORN.

"I WAS JUST PLAYING AROUND WITH THE DATA AND GETTING AN UNEXPECTED RESULT," MS. BUCKLES RECALLS OF THE TENDENCY THAT LESS EDUCATED MOTHERS WERE HAVING CHILDREN IN WINTER.

THE TWO ECONOMISTS, WHOSE OFFICES ARE ACROSS FROM ONE ANOTHER, WERE COMPARING NOTES ONE DAY AND REALIZED THAT THEY MIGHT HAVE STUMBLED ACROSS AN ANSWER TO THE SEASON-OF-BIRTH PUZZLE THAT PREVIOUS RESEARCH HAD OVERLOOKED.

A KEY ASSUMPTION OF MUCH OF THAT RESEARCH IS THAT THE BACKGROUNDS OF CHILDREN BORN IN THE WINTER ARE THE SAME AS THE BACKGROUNDS OF CHILDREN BORN AT OTHER TIMES OF THE YEAR. IT MUST BE SOMETHING THAT HAPPENS TO THOSE WINTER-BORN CHILDREN THAT ACCOUNTS FOR THEIR FARING POORLY.

IN A CELEBRATED 1991 PAPER, ECONOMISTS JOSHUA ANGRIST OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY AND ALAN KRUEGER OF PRINCETON UNIVERSITY ARGUED THAT SEASON-OF-BIRTH DIFFERENCES IN HOW FAR CHILDREN GO IN SCHOOL IS DUE TO HOW SCHOOL-ATTENDANCE LAWS AFFECT CHILDREN BORN AT DIFFERENT TIMES OF THE YEAR. CHILDREN BORN IN THE WINTER REACH THEIR 16TH BIRTHDAYS EARLIER IN THE YEAR THAN OTHER CHILDREN, WHICH MEANS THEY CAN LEGALLY DROP OUT OF SCHOOL SOONER IN THE SCHOOL YEAR -- WHICH SOME DO, LEADING TO LOWER EDUCATION LEVELS IN THE GROUP.

WHILE IT WAS WELL KNOWN THAT THE EDUCATED EARNED MORE, THEY ALSO TENDED TO COME FROM PRIVILEGED BACKGROUNDS -- SOMETHING THAT ALSO AFFECTS LATER EARNINGS. UP UNTIL THEN, NO ONE KNEW HOW TO SEPARATELY JUDGE THE IMPACT OF EDUCATION ON HIGHER EARNINGS. DATA ALREADY SHOWED THE RESEARCHERS THAT WINTER BABIES TENDED TO EARN LESS. ONCE MR. KRUEGER AND MR. ANGRIST KNEW HOW MUCH WINTER BIRTHS AFFECTED EDUCATION LEVEL, THEY WERE ABLE TO ESTIMATE HOW EDUCATION AFFECTS LATER EARNINGS.

THE STATISTICAL TECHNIQUES MR. ANGRIST AND MR. KREUGER DEVELOPED HELPED SET OFF A FLURRY OF RESEARCH THAT EMPLOYS "NATURAL EXPERIMENTS." IN THESE, ECONOMISTS USE SOME RANDOM OR NATURAL INFLUENCE TO APPROXIMATE THE CONTROLLED CONDITIONS OF LABORATORY EXPERIMENTS -- THE TYPE OF RESEARCH THAT UNIVERSITY OF CHICAGO ECONOMIST STEVEN LEVITT POPULARIZED IN THE BOOK "FREAKONOMICS." EXAMPLES INCLUDE USING DIFFERENCES IN THE INTRODUCTION OF TELEVISION IN DIFFERENT PARTS OF THE U.S. TO SEE HOW TV AFFECTS CHILDREN'S COGNITIVE ABILITY AND USING CHANGES IN DAYLIGHT-SAVING TIME TO SEE HOW SETTING CLOCKS FORWARD EVERY SPRING AFFECTS ENERGY USE.

OTHER RESEARCHERS HAVE SUGGESTED OTHER REASONS FOR SEASON-OF-BIRTH DIFFERENCES. MAYBE VITAMIN D WAS PLAYING A ROLE, FOR EXAMPLE, BECAUSE CHILDREN BORN IN THE WINTER WERE GETTING LESS SUNSHINE IN EARLY LIFE. OR MAYBE BEING PUT IN THE SAME SCHOOL YEAR WITH CHILDREN WHO ARE MOSTLY YOUNGER MAKES CHILDREN BORN IN THE WINTER LESS SOCIALLY MATURE. A STUDY PUBLISHED IN THE MEDICAL JOURNAL ACTA PÆDRIATICA IN APRIL FOUND THAT CHILDREN BORN IN THE WINTER HAVE HIGHER BIRTH-DEFECT RATES AND SUGGESTED IT WAS DUE TO A HIGHER CONCENTRATION OF PESTICIDES IN SURFACE WATER IN THE SPRING AND SUMMER, WHEN THE CHILDREN WERE CONCEIVED.

THERE MAY BE VALIDITY TO ALL OF THAT RESEARCH. BUT IF THERE WAS ANY TRUTH TO THE PATTERN THAT MS. BUCKLES AND MR. HUNGERMAN DISCOVERED, IT WOULD QUESTION THE WEIGHTINESS OF OTHER FACTORS FROM PAST RESEARCH. IF WINTER BABIES WERE MORE LIKELY TO COME FROM LESS-PRIVILEGED FAMILIES, IT WOULD BE NATURAL TO EXPECT THEM TO DO MORE POORLY IN LIFE.

THE TWO ECONOMISTS EXAMINED BIRTH-CERTIFICATE DATA FROM THE CENTERS FOR DISEASE CONTROL AND PREVENTION FOR 52 MILLION CHILDREN BORN BETWEEN 1989 AND 2001, WHICH REPRESENTS VIRTUALLY ALL OF THE BIRTHS IN THE U.S. DURING THOSE YEARS. THE SAME PATTERN KEPT TURNING UP: THE PERCENTAGE OF CHILDREN BORN TO UNWED MOTHERS, TEENAGE MOTHERS AND MOTHERS WHO HADN'T COMPLETED HIGH SCHOOL KEPT PEAKING IN JANUARY EVERY YEAR. OVER THE 13-YEAR PERIOD, FOR EXAMPLE, 13.2% OF JANUARY BIRTHS WERE TO TEEN MOTHERS, COMPARED WITH 12% IN MAY -- A SMALL BUT STATISTICALLY SIGNIFICANT DIFFERENCE, THEY SAY.

"HONESTLY, WHEN WE FIRST SAW THESE PATTERNS, WE WERE SO STUNNED WE WONDERED IF WE MADE SOME MISTAKE," SAYS MR. HUNGERMAN. "WE WEREN'T EVEN EXCITED, WE WERE LIKE, 'IS THAT RIGHT?' "

HE AND MS. BUCKLES ESTIMATE THAT FAMILY BACKGROUND ACCOUNTS FOR UP TO 50% OF THE DIFFERENCES IN EDUCATION AND EARNINGS. THAT SUGGESTS TO THEM THAT THE COMPULSORY-SCHOOLING EFFECT MR. ANGRIST AND MR. KRUEGER DESCRIBED COULD STILL BE THERE, BUT THAT IT CAN'T BE USED TO MEASURE HOW SCHOOLING AFFECTS LATER EARNINGS BECAUSE IT STILL MIXES THE EFFECTS OF PRIVILEGE AND EDUCATION INSTEAD OF ISOLATING THEM.

MR. ANGRIST, WHO HAS REVIEWED THEIR RESEARCH, DISAGREES. "THE BOTTOM LINE IS A SLIGHT CHANGE IN THE ESTIMATE," HE SAYS. "IT HARDLY OVERTURNS OUR FINDING." (MR. KRUEGER, NOW AN ASSISTANT TREASURY SECRETARY, DEFERRED TO MR. ANGRIST FOR COMMENT).

THE NEW RESEARCH HAS HIT THE CONFERENCE CIRCUIT. UNIVERSITY OF TEXAS ECONOMIST DANIEL HAMERMESH, WHO SELECTED FOR A CONFERENCE DISCUSSION THE WORKING PAPER THAT RESULTED FROM MS. BUCKLES AND MR. HUNGERMAN'S RESEARCH, SAYS THAT IT MAKES AN IMPORTANT POINT ABOUT THE ASSUMPTIONS THAT ECONOMISTS RELY ON IN NATURAL EXPERIMENTS. "I LOVE THE PAPER," HE SAYS. "IT MEANS YOU HAVE TO THINK ABOUT THINGS MORE THAN YOU WANT TO THINK."

JANET CURRIE, A COLUMBIA UNIVERSITY ECONOMIST WHO ALSO SELECTED THE PAPER FOR A CONFERENCE, SAYS THAT WHAT STRIKES HER IS HOW THE PATTERN MS. BUCKLES AND MR. HUNGERMAN FOUND SHOWS UP EVEN IN SIMPLE CHARTS. "YOU CAN TAKE A LOOK AT THOSE GRAPHS AND SEE THE CLEAR PATTERN AND THAT IT'S REMARKABLY STABLE OVER TIME," SHE SAYS. "IT SPEAKS FOR ITSELF -- YOU DON'T HAVE TO PUT A LOT OF INTERPRETATION ON IT."

THE QUESTION NOW IS WHAT DRIVES WOMEN FROM DIFFERENT SOCIOECONOMIC BACKGROUNDS TO TEND TO HAVE CHILDREN AT DIFFERENT TIMES OF THE YEAR.

MS. BUCKLES AND MR. HUNGERMAN AREN'T ENTIRELY SURE YET. PERHAPS IT HAS TO DO WITH FLUCTUATIONS IN EMPLOYMENT; MARRIED WOMEN TEND TO CONCEIVE WHEN UNEMPLOYMENT IS HIGHER, RESEARCH HAS SHOWN. THEY ALSO SPECULATE IT MIGHT BE DUE TO COOLER TEMPERATURES IN SPRINGTIME, WHICH DON'T ADVERSELY AFFECT THE FERTILITY OF POOR PARENTS, WHO MAY NOT HAVE AIR CONDITIONING, LIKE HOT TEMPERATURES DO. OR THEY WONDER IF THERE MIGHT EVEN BE A "PROM" EFFECT AT WORK. JANUARY IS, AFTER ALL, ABOUT NINE MONTHS AFTER MANY OF THOSE SOIREES.

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THE SCIENCE SEGMENT

SCIENTISTS MAKE PARALYSED RATS RUN AGAIN

PARIS — PARALYSED RATS WHOSE SPINAL CORDS HAD BEEN SEVERED FROM THEIR BRAINS WERE MADE TO RUN AGAIN USING A TECHNIQUE THAT SCIENTISTS SAY CAN WORK FOR PEOPLE, ACCORDING TO A STUDY RELEASED SUNDAY.

CONSISTENT ELECTRICAL STIMULATION AND DRUGS ENABLED THE RATS TO WALK ON THEIR HIND LEGS ON A TREADMILL -- BEARING THE FULL WEIGHT OF THE BODY -- WITHIN A WEEK OF BEING PARALYSED.

WITH THE ADDITION OF PHYSICAL THERAPY, THE RODENTS WERE ABLE AFTER SEVERAL WEEKS TO WALK AND RUN WITHOUT STUMBLING FOR UP TO 30 MINUTES, REPORTED THE STUDY, PUBLISHED IN THE JOURNAL NATURE NEUROSCIENCE.

REMARKABLY, THE ANIMALS COULD ADJUST THEIR MOVEMENTS IN RESPONSE TO STIMULI DESPITE THE LACK OF SIGNALS TO AND FROM THE BRAIN: WHEN THE TREADMILL WAS REVERSED, FOR EXAMPLE, THE RATS WALKED BACKWARDS.

"THIS MEANS THAT THE SPINAL NETWORK IS ALMOST CAPABLE OF COGNITIVE PROCESSING," EXPLAINED GREGOIRE COURTINE, A PROFESSOR AT ZURICH UNIVERSITY.

"IT CAN UNDERSTAND THAT THE EXTERNAL WORLD IS CHANGING, AND INTERPRET THIS INFORMATION TO MODIFY THE WAY IT ACTIVATES MUSCLE," HE TOLD AFP BY PHONE.

EARLIER STUDIES HAD SHOWN THAT NERVE NETWORKS IN THE SPINAL CORD CAN PRODUCE LIMITED MOTION IN THE MUSCLES INDEPENDENT OF THE BRAIN OR SENSORY ORGANS.

BUT THIS IS THE FIRST TIME THAT RESEARCHERS HAVE BEEN ABLE TO RESTORE NORMAL OR NEARLY NORMAL FUNCTIONS.

"WE CAN OPTIMISE THE USE OF THE CIRCUITRY IN THE SPINAL CORD TO THE POINT WHERE THE ANIMALS CAN SUSTAIN FULL WEIGHT-BEARING LOCOMOTION," SAID COURTINE.

"IN SOME CASES THEY ACTUALLY WALKED WITH MORE CONSISTENT LOCOMOTIVE PATTERNS THAN NON-INJURED ANIMALS."

THE NEXT STEP IS TO DEVELOP DEVICES THAT CAN BE IMPLANTED INSIDE THE BODY.

"WE ARE NOW DESIGNING NEURO-PROSTHESES, ARRAYS OF ELECTRODES THAT FIT LIKE A SECOND SKIN BETWEEN THE VERTEBRAE AND THE SPINAL CORD," COURTINE EXPLAINED.

A STRIP MEASURING THREE CENTIMETRES (1.2 INCHES) LONG AND ONE HUNDREDTH OF A CENTIMETRE THICK, THE DEVICE IS DESCRIBED AS "MINIMALLY INVASIVE" BECAUSE IT DOES NOT PENETRATE INTO THE SPINAL CORD.

COURTINE AND COLLEAGUES ARE CURRENTLY TESTING THE NEURO-PROSTHESES ON RATS, AND EXPECT TO HAVE AN INTERFACE FOR HUMANS WITHIN FOUR YEARS.

THE NEW TECHNIQUE IS DESIGNED TO HELP PATIENTS WITH INCOMPLETE BUT SEVERE INJURIES, SUCH AS THOSE WHO CANNOT WALK INDEPENDENTLY.

"FOR THESE PEOPLE, IT IS HIGHLY LIKELY THAT THIS APPROACH WILL IMPROVE THEIR FUNCTION," HE SAID.

THE MIX OF ELECTRICAL STIMULATION AND PHYSICAL THERAPY MAY BE ENOUGH TO RESTORE SIGNIFICANT MOBILITY IN MANY PATIENTS, BUT THE ADDITION OF DRUGS "WOULD BE EXTREMELY BENEFICIAL," HE ADDED.

IN THE RAT EXPERIMENTS, THE RESEARCHERS INJECTED SO-CALLED SEROTONERGIC AGONISTS, A COMPOUND THAT MIMICS THE EFFECT OF THE NEUROTRANSMITTER SEROTONIN AND ACTIVATES RECEPTORS IN THE CENTRAL AND PERIPHERAL NERVOUS SYSTEM.

THERE ARE APPROXIMATELY A QUARTER OF A MILLION PERSONS WITH SERIOUS SPINAL CORD INJURIES IN THE UNITED STATES, ACCORDING TO THE FOUNDATION FOR SPINAL CORD INJURY, PREVENTION, CARE AND CURE. OTHER SOURCES ESTIMATE THE TOTAL WORLDWIDE AT 2.5 MILLION.

NEARLY HALF OF ALL SPINAL CORD INJURIES ARE CAUSED BY AUTOMOBILE ACCIDENTS, AND MORE THAN HALF OCCUR AMONG YOUNG PEOPLE BETWEEN 16 AND 30 YEARS OLD.

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ABROAD

NEPAL HIT BY SEVERE GOAT SHORTAGE

THE AUTHORITIES IN NEPAL HAVE ORDERED OFFICIALS TO FIND MORE GOATS FOR RITUAL SLAUGHTER AHEAD OF THE COUNTRY'S BIGGEST RELIGIOUS FESTIVAL OF THE YEAR.

COMMENT: SO THOUSANDS OF ANIMALS HAVE TO DIE BECAUSE THESE "SUBHUMANS" STILL THINK THEY ARE LIVING IN THE 8TH CENTURY?

OFFICIALS SAY THAT THERE IS A SEVERE SHORTAGE OF GOATS TO OFFER AS SACRIFICE IN THE CAPITAL KATHMANDU.

COMMENT: DO YOU THINK THAT SHORTAGE MIGHT HAVE ANYTHING TO DO WITH THE FACT THAT YOU KEEP KILLING THEM EVERY YEAR?

THE REASON FOR THE SHORTAGE IS UNCLEAR, BUT EXPERTS SAY IT IS MOSTLY DUE TO DEMAND OUTSTRIPPING SUPPLY.

COMMENT: DON'T YOU WISH THESE PEOPLE COULD REINCARNATE AS GOATS AND THEN BE KILLED, ALL BECAUSE SOME "ADVANCED" CREATURES BELIEVE IN INVISIBLE GHOSTS?

THEY SAY THAT IT MAY BE BECAUSE CHINA HAS THIS YEAR EXPORTED FEWER GOATS TO NEPAL, RESULTING IN FAR HIGHER PRICES.

COMMENT: OR MAYBE CHINA IS FINALLY DEVELOPING A CONSCIENCE?

THE NEPAL FOOD CORPORATION HAS NOW ORDERED OFFICIALS TO TRAVEL TO THE COUNTRYSIDE AND BUY GOATS TO BE BROUGHT TO KATHMANDU AHEAD OF THE FESTIVAL OF DASHAIN ON 19 SEPTEMBER.

COMMENT: "FESTIVAL" IS A EUPHEMISM FOR "SLAUGHTER."

GOATS ARE TRADITIONALLY SLAUGHTERED DURING THE 15-DAY EVENT TO APPEASE DURGA, AN IMPORTANT HINDU GODDESS.

COMMENT: WELL WHY DIDN'T YOU SAY SO? NOW THAT I KNOW IT'S FOR DURGA, I TAKE BACK MY EARLIER BLASPHEMOUS COMMENTS.

A RADIO CAMPAIGN HAS BEEN LAUNCHED TO PERSUADE FARMERS TO SELL THEIR ANIMALS AS PART OF A CAMPAIGN TO MEET THE HIGH DEMAND FOR GOAT MEAT AND TO CONTROL PRICE RISES.

COMMENT: SURE, GIVE UP ANIMALS THAT SUPPLY YOUR FAMILY WITH MILK AND PROTEIN, SO THAT AN INVISIBLE GHOST WON'T GET MAD.

MR. THAPA SAID, "KATHMANDU CITY FACES A SHORTAGE OF GOATS DURING THE FESTIVAL, WHICH ALWAYS BRINGS A HIGH DEMAND FOR GOAT MEAT, WE ARE BRINGING GOATS IN TO EASE THE SUPPLY AND TO CONTROL DRAMATIC PRICE HIKES."

COMMENT: SO AS ALWAYS, IT COMES DOWN TO MONEY.

ADVERTS HAVE BEEN PLACED IN RURAL AREAS CALLING ON GOAT OWNERS TO SELL THEIR PRODUCE. MR. THAPA SAID THAT THE PRICE OF THE ANIMALS HAD RISEN BY A QUARTER IN KATHMANDU - BUT THE GOVERNMENT HOPED THAT FURTHER INCREASES WOULD NOT HAPPEN BECAUSE 6,000 GOATS WERE BEING BROUGHT INTO THE CITY.

COMMENT: IN A CIVILIZED SOCIETY, THAT WOULD BE 6,000 COUNTS OF ANIMAL CRUELTY.

"OUR STAFF HAVE BEEN MOBILISED ACROSS THE COUNTRY TO SEARCH FOR GOATS TO PREPARE FOR THE FESTIVAL," HE SAID, ADDING THAT THE GOVERNMENT WOULD SELL THEM BELOW THE MARKET RATES. "AROUND 240 GOATS HAVE ALREADY REACHED KATHMANDU AND WE ARE EXPECTING MORE IN THE COMING DAYS."

COMMENT: I'M SO RELIEVED. IF YOU HADN'T FOUND THOSE EXTRA GOATS, DURGA MIGHT HAVE SENT A PLAGUE OR A CURSE. MAYBE SHE WOULD HAVE TURNED YOUR COUNTRY INTO A BACKWARD SOCIETY STRAIGHT OUT OF THE DARK AGES. THANK GOD (I MEAN DURGA) THAT YOU FOUND THOSE GOATS.

CORRESPONDENTS SAY THAT THERE WAS A SIMILAR SHORTAGE OF GOATS LAST YEAR, WHEN THE GOVERNMENT SAID THAT IT HOPED TO SUPPLY 4,000 GOATS TO THE CITY, BUT ENDED UP PROVIDING JUST 2,300.

COMMENT: WELL THAT CERTAINLY COULDN'T HAVE PLEASED THE GODS.

CHRISTIAN SOCIETY USED TO BE THE SAME WAY. IF YOU READ THE BIBLE, YOU WILL SEE THAT THEY SACRIFICED EVEN MORE INNOCENT ANIMALS THAN THESE SUBHUMANS. BUT CENTURIES OF CIVILIZATION HAVE DONE AWAY WITH MANY OF THE BRUTAL, INHUMAN PRACTICES OF ANCIENT RELIGIONS. UNFORTUNATELY, THIS STORY PROVES THAT NOT EVERYONE HAS "GOTTEN THE MEMO."

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FAMOUS QUOTES

LEON TROTSKY (1879 –1940) 60 YEARS.

HE WAS A BOLSHEVIK REVOLUTIONARY AND MARXIST THEORIST. HE WAS ONE OF THE LEADERS OF THE RUSSIAN OCTOBER REVOLUTION, SECOND ONLY TO LENIN. DURING THE EARLY DAYS OF THE SOVIET UNION, HE SERVED FIRST AS PEOPLE'S COMMISSAR FOR FOREIGN AFFAIRS AND LATER AS THE FOUNDER AND COMMANDER OF THE RED ARMY AND PEOPLE'S COMMISSAR OF WAR. HE WAS ALSO AMONG THE FIRST MEMBERS OF THE POLITBURO.

AFTER LEADING A FAILED STRUGGLE OF THE LEFT OPPOSITION AGAINST THE POLICIES AND RISE OF JOSEPH STALIN IN THE 1920S AND THE INCREASING ROLE OF BUREAUCRACY IN THE SOVIET UNION, TROTSKY WAS EXPELLED FROM THE COMMUNIST PARTY AND DEPORTED FROM THE SOVIET UNION. AN EARLY ADVOCATE OF RED ARMY INTERVENTION AGAINST EUROPEAN FASCISM, TROTSKY ALSO OPPOSED STALIN'S PEACE AGREEMENTS WITH ADOLF HITLER IN THE 1930S. AS THE HEAD OF THE FOURTH INTERNATIONAL, TROTSKY CONTINUED IN EXILE TO OPPOSE THE STALINIST BUREAUCRACY IN THE SOVIET UNION, AND WAS EVENTUALLY ASSASSINATED IN MEXICO BY RAMÓN MERCADER, A SOVIET AGENT. TROTSKY'S IDEAS FORM THE BASIS OF TROTSKYISM, A TERM COINED AS EARLY AS 1905 BY HIS OPPONENTS IN ORDER TO SEPARATE IT FROM MARXISM. TROTSKY’S IDEAS REMAIN A MAJOR SCHOOL OF MARXIST THOUGHT THAT IS OPPOSED TO THE THEORIES OF STALINISM.

"NOT ONLY IN PEASANT HOMES BUT ALSO IN CITY SKYSCRAPERS,

THERE LIVES ALONG SIDE THE TWENTIETH CENTURY THE THIRTEENTH.

A HUNDRED MILLION PEOPLE USE ELECTRICITY

AND STILL BELIEVE IN THE MAGIC POWERS OF SIGNS AND EXORCISMS...

MOVIE STARS GO TO MEDIUMS.

AVIATORS WHO PILOT MIRACULOUS MECHANISMS CREATED BY MAN'S GENIUS

WEAR AMULETS ON THEIR SWEATERS.

WHAT INEXHAUSTIBLE RESERVES THEY POSSESS OF DARKNESS, IGNORANCE AND SAVAGERY!"