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OUR VIEW: A VIRUS OF HATRED SPREADS ONLINE

YOUTUBE SHOULD NIX ANTI-CATHOLIC VIDEOS

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A BIOLOGY PROFESSOR AT THE UNIVERSITY OF MINNESOTA, MORRIS, KNOWN AS PZ “LITTLE PAUL” MYERS, HAS NO CLAIM TO FAME BEYOND AN INFANTILE EXPRESSION OF BIGOTRY THAT WENT VIRAL, MUCH LIKE A FLU VIRUS.

(NEO: WELL, LET'S ANALYZE YOUR FIRST SENTENCE. YOU BEGIN BY NAME-CALLING ("LITTLE PAUL"), THEN YOU FOLLOW WITH A COUPLE OF INSULTS ("NO CLAIM TO FAME" AND "INFANTILE EXPRESSION"), YOU CONTINUE WITH A FALSE, UNPROVABLE ACCUSATION ("BIGOTRY"), AND CONCLUDED WITH A FALSE ANALOGY ("LIKE A FLU VIRUS").

IF THERE EVER WAS A LOGICAL BONE IN YOUR BODY - IT HAS LONG SINCE BEEN REMOVED. HOW ANYONE COULD CRAM THAT MUCH IRRATIONAL CRAP INTO ONE SENTENCE IS A TESTAMENT TO YOUR ABILITY TO COMPLETELY AVOID ANY PRETENSE OF THINKING).

THOUGH MOSTLY FORGOTTEN, MYERS IS TO AN INTERNET HATE VIRUS WHAT THAT PIG IN VERACRUZ, MEXICO, IS TO H1N1. HE IS THE ORIGINAL HOST IN AN OBSCURE VILLAGE.

(NEO: THIS IS LIKE LISTENING TO THE RANT OF A LITTLE CHILD WHO JUST HAD HIS CANDY BAR TAKEN AWAY. FIRST - YOU HAVE AN ODD IDEA OF WHAT CONSTITUTES "MOSTLY FORGOTTEN" - THERE ARE OVER 50,000 PEOPLE A WEEK WHO HAVE APPARENTLY NOT "FORGOTTEN" MYERS.

SECOND, YOU CONTINUE TO EXHIBIT YOUR MASTERY OF THE LOGICAL FALLACY OF FALSE ANALOGY.

THIRD, INSULTING THE PEOPLE OF MORRIS BECAUSE THEY ARE A SMALL TOWN SHOWS THAT YOU MAY BE THE ONE WHO IS MORE CLOSELY RELATED TO THAT PIG IN VERA CRUZ.

BESIDES COLORADO SPRINGS ISN'T WHAT I WOULD CALL A METROPOLIS).

MYERS IS THE BRAIN TRUST WHO OBTAINED A EUCHARIST FROM A CATHOLIC CHURCH LAST YEAR SO HE COULD GO PUBLIC DESECRATING IT.

(NEO: SO THAT'S WHAT'S GOT YOUR PANTIES ALL KNOTTED UP IN A BUNCH. YOU PRODUCE LITTLE PRAYER VIDEOS FOR CATHOLIC CHILDREN, SO NOW YOU'RE GOING TO COME TO THE DEFENSE OF YOUR GOD BY DEMONSTRATING HOW MUCH LIKE JESUS YOU CAN SOUND).

FOR THOSE UNFAMILIAR WITH CATHOLICISM, THE EUCHARIST IS A CONSECRATED COMMUNION HOST. IT IS THE RELIGIOUS COMMUNITY’S MOST SACRED OBJECT, HANDLED IN THE CHURCH ONLY WITH METHODICAL REVERENCE BY THOSE WHO’VE BEEN TRAINED.

(NEO: IT'S A FUCKING CRACKER YOU MORON).

MYERS INITIATED A FIGHT, BY COMMITTING A HATEFUL ACT, FOR NO REASON OTHER THAN TO INDULGE AN EXPRESSION OF HIS OWN DISRESPECT AND INTOLERANCE OF OTHERS.

(NEO: WELL, AS A CATHOLIC WITH A LONG HISTORY OF BLOOD AND MURDER BEHIND YOU - THAT SHOULD SOUND PRETTY FAMILIAR. AT LEAST MYERS DESECRATES CRACKERS - YOU PEOPLE DESECRATE HUMANS).

THIS PUTS HIM IN COMPANY WITH A TEENAGER IN GREECE WHO URINATED ON A HOLOCAUST MEMORIAL LAST YEAR AND POSTED HIS ACT ON YOUTUBE.

(NEO: YOUR ABILITY TO CONSTRUCT FALSE ANALOGIES INDICATES THAT YOU COULDN'T THINK STRAIGHT EVEN IF YOUR BRAIN WAS HOOKED UP PROPERLY).

JUST LIKE THE TEEN URINATOR, MYERS WENT OUT OF HIS WAY TO ANTAGONIZE, DISRESPECT AND INSULT A DEMOGRAPHIC HE DISLIKES.

(NEO: ACTUALLY, "DISLIKES" MIGHT BE AN UNDERSTATEMENT).

MYERS HAD EVERY RIGHT TO MISTREAT A SACRED RELIGIOUS OBJECT, JUST AS HE WOULD HAVE A RIGHT TO BURN A TORAH OR TRAIPSE AROUND IN A WHITE SHEET. THE FIRST AMENDMENT PROTECTS CONTROVERSIAL EXPRESSION, INCLUDING HATE SPEACH.

(NEO: ACTUALLY, THE PEOPLE WHO "TRAIPSE AROUND IN WHITE SHEETS" ARE ALMOST ALWAYS CHRISTIANS - AS ARE ALMOST ALL NEO-NAZIS. AND YOU ARE RIGHT ABOUT THE FIRST AMENDMENT PROTECTING HATE SPEECH - WHICH IS WHY IT IS LEGAL FOR YOU TO TELL THE REST OF US THAT WE ARE EVIL AND DESERVE ETERNAL TORTURE).

RIGHTS, HOWEVER, COME UNDER THREAT WHEN PEOPLE FAIL TO USE THEM IN A CONTEXT OF SELF-CONTROL, CIVILITY, INTELLIGENCE AND RESPECT FOR OTHERS.

(NEO: WHAT COULD YOU POSSIBLY KNOW ABOUT ANY OF THAT? YOUR ARTICLE HAS BEEN ENTIRELY DEVOID OF ALL FOUR).

THE SECOND AMENDMENT PROTECTS GUN RIGHTS, FOR EXAMPLE, BUT THE AMENDMENT CAN WITHSTAND ONLY SO MUCH MISUSE BEFORE PEOPLE DISHONOR IT OR EVEN DEMAND ITS DEMISE. THAT’S WHY A MAJORITY OF GUN OWNERS, AND MOST GUN RIGHTS ORGANIZATIONS, EMPHASIZE THE SAFE HANDLING OF GUNS ABOVE ALL ELSE.

(NEO: WHAT IS IT WITH YOU CHRISTIANS AND GUNS ANYWAY? NOW THAT SECULAR SOCIETY HAS TAKEN AWAY YOUR STONES, STAKES, AND SWORDS, YOU CLING TO THE ONLY WEAPONS YOU HAVE LEFT. IF YOU JOINED THOSE OF US WHO LIVE IN THE RATIONAL WORLD OF REALITY, YOU MIGHT BE AMAZED HOW SOON THOSE WEAPONS WOULD BECOME UNNECESSARY).

THE NEED TO MAINTAIN RIGHTS IN A RESPONSIBLE CONTEXT EXPLAINS WHY MOST PRIVATE INDIVIDUALS, COMPANIES, ORGANIZATIONS AND GOVERNMENTS TREAT FREE SPEECH WITH RESPECT.

(NEO: FREEDOM OF SPEECH IS THE SECOND GREATEST ENEMY OF RELIGION - RIGHT BEHIND REASON. THE ONLY FREE SPEECH YOU RESPECT IS YOUR OWN).

YOUTUBE, FOR EXAMPLE, HAS A LEGAL RIGHT TO HOST ALMOST ANY VIDEO A PERSON MIGHT PRODUCE. YET IT CHOOSES AN ABUNDANCE OF SELF-CONTROL. IT DOESN’T HOST PORN, OR VIDEOS INTENDED TO SHOCK.

(NEO: I'VE SEEN PORN ON YOUTUBE - AT A FRIEND'S HOUSE, OF COURSE).

THE COMPANY’S GUIDELINES FORBID “HATE SPEECH,” WHICH IT DEFINES AS “SPEECH WHICH ATTACKS OR DEMEANS A GROUP BASED ON RACE OR ETHNIC ORIGIN, RELIGION, DISABILITY, GENDER, AGE, VETERAN STATUS, AND SEXUAL ORIENTATION/GENDER IDENTITY.”

(NEO: THE CONCEPT OF "HATE SPEECH" IS THE GREATEST ATTACK ON THE FIRST AMENDMENT THAT "YOU PEOPLE" HAVE EVER LAUNCHED. IT IS A SUBSTITUTE FOR THE OLD BLASPHEMY LAWS).

IT’S A GREAT POLICY,

(NEO: I AGREE, IT IS A GREAT POLICY - IN KINDERGARTEN. IT IS THE WORST POSSIBLE POLICY FOR AN OPEN DEMOCRACY. BUT THEN, WE ALL KNOW WHAT KIND OF "OCRACY" YOU WANT, DON'T WE?).

AND THE REASON YOUTUBE WISELY REMOVED THE VIDEO OF AN IDIOT INSULTING JEWS. THE VIDEO WAS SHOCKING AND HATEFUL, AND THEREFORE BENEATH YOUTUBE STANDARDS.

(NEO: HOW DO YOU KNOW HE WAS AN IDIOT? AND SINCE WHEN DID YOU GUYS START DEFENDING JEWS? YOUR ENTIRE HISTORY IS PACKED WITH ANTI-SEMITISM).

LITTLE PAUL’S EMPLOYER ALSO ATTEMPTS TO MAINTAIN RIGHTS WITHIN A RESPONSIBLE CONTEXT.

(NEO: YOU SOUND MORE LIKE AN ANGRY LITTLE NAME-CALLING CHILD THAN THE EDITOR AT A NEWSPAPER. DON'T THEY HAVE ANY HIRING STANDARDS AT THE GAZETTE?).

THE CODE OF CONDUCT AT THE UNIVERSITY OF MINNESOTA MORRIS SAYS FACULTY MUST BE “RESPECTFUL, FAIR AND CIVIL” WHEN DEALING WITH OTHERS. THAT PRETTY MUCH RULES OUT SOLICITING THEFT OF ONE COMMUNITY’S MOST SACRED OBJECT IN ORDER TO ABUSE IT.

(NEO: BUT I GUESS THAT DOESN'T APPLY TO YOUR LITTLE "WINDOW-SMASHING FIASCO" A FEW YEARS BACK DOES IT?

CAN YOU SPELL THE WORD H-Y-P-O-C-R-I-T-E?).

MYERS’ VICIOUS STUNT, DESIGNED TO TORMENT AND UPSET PEOPLE OF ONE RELIGIOUS AFFILIATION, HAS INSPIRED SIMILAR BIGOTS TO MAKE VIDEOS THAT FEATURE VARIOUS FORMS OF EUCHARIST ABUSE.

(NEO: BUT YOU DON'T THINK TELLING INNOCENT PEOPLE WHO HAVE DONE NOTHING WRONG, OTHER THAN REFUSE TO BELIEVE IN YOUR GOD, THAT THEY ARE EVIL AND DESERVE TO BE TORTURED FOREVER IS "VICIOUS," "DESIGNED TO TORMENT," AND "UPSETTING?"

YOU REALLY DO NEED TO SPEND SOME TIME IN THE DICTIONARY. SPEND ABOUT A WEEK JUST STARING AT THE WORD HYPOCRITE AND MAYBE A LIGHT WILL COME ON UPSTAIRS).

ONE VIDEO FEATURES MYERS SIGNING HIS AUTOGRAPH ON A EUCHARISTIC HOST.

(NEO: MYERS HAS NO CLASS. I WOULD NEVER ALLOW MY AUTOGRAPH TO BE FOUND ON A PIECE OF CRAP).

MYERS AND HIS ACOLYTES BELIEVE LOVE FOR THE EUCHARIST IS STUPID.

(NEO: MYERS IS BEING FAR TOO GENEROUS).

INSTEAD OF ENGAGING IN DIALOGUE, AND CHALLENGING A RELIGIOUS BELIEF THEY DON’T LIKE WITH THEIR OWN REASON AND LOGIC, THEY CHOOSE HURTFUL CONFRONTAION.

(NEO: YOU'VE OBVIOUSLY BEEN SPENDING TOO MUCH TIME PRODUCING YOUR LITTLE KIDDIE VIDEOS. IF YOU WENT TO HIS WEBSITE YOU WOULD SEE THAT "ENGAGING IN DIALOGUE AND CHALLENGING RELIGIOUS BELIEFS WITH REASON AND LOGIC TAKES UP A GREAT DEAL OF HIS TIME).

IT IS NOTHING LESS THAN HATEFUL TO BRING HARM TO AN OBJECT THAT’S IMPORTANT TO SOMEONE ELSE.

(NEO: NEED WE BRING UP, AGAIN, THE WINDOWS YOU SMASHED UP IN BOULDER? ARE YOU EVEN CAPABLE OF MAKING A STATEMENT WITHOUT PROVING YOURSELF TO BE A TOTAL HYPOCRITE?).

IF MYERS BURNS AN INDIAN TRIBE’S TOTEM POLE, HE COMMUNICATES HATRED TOWARD THE TRIBE. IF MYERS TAUNTS JEWS BY DESTROYING THE MENORAH OR THE SHIELD OF DAVID, HE EXPRESSES HATRED.

(NEO: I WOULD SAY THIS ARTICLE IS A PRETTY OBVIOUS EXPRESSION OF HATRED. AND BELIEVE ME, AS A CATHOLIC - YOU ARE NOT IN A POSITION TO BE CLAIMING TOLERATION OF JEWS).

YOUTUBE, THESE EUCHARIST DESECRATION VIDEOS ARE HATE SPEECH.

(NEO: MAYBE NOW YOU SEE HOW IT FEELS. DOESN'T FEEL SO GOOD, DOES IT? THINK ABOUT THAT THE NEXT TIME YOU CALL NONBELIEVERS EVIL AND THREATEN THEM WITH ETERNAL TORTURE).

THEY ARE SHOCKING AND THEY ARE FILTH, EVEN THOUGH CATHOLICS ARE NOT POPULAR IN THESE TIMES.

(NEO: THAT IS NOT TRUE OF ALL CATHOLICS - JUST HYPOCRITICAL HATE MONGERS AND WINDOW-SMASHERS LIKE YOU).

THEY MOCK THE GUIDELINES OF RESPECT AND CIVILITY THAT HAVE HELPED YOUTUBE SUCCEED.

(NEO: YOU KNOW, I JUST SAW A PICTURE OF YOU SMASHING UP THOSE HISTORICAL WINDOWS IN BOULDER A FEW YEARS BACK, AND - I DON'T SEE ANY SIGN OF RESPECT NOR CIVILITY. THAT PICTURE REMINDS ME MORE OF JESUS IN THE TEMPLE ATTACKING THE MONEYCHANGERS).

TAKE DOWN THESE PUTRID VIDEOS, BEFORE THEY TURN YOUTUBE INTO A DIGITAL SEWER.

(NEO: IF YOU GET YOUR WAY AND FREE SPEECH IS TAKEN AWAY BY THE CONCEPT OF "HATE SPEECH" THEN "SEWER" WOULD BE A GOOD DESCRIPTION - OF WHAT OUR COUNTRY WILL BECOME).

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http://www.gazette.com/opinion/virus-89989-online-biology.html

http://www.westword.com/2004-09-23/news/the-message/

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THE SCIENCE SEGMENT

A SUPERBRIGHT SUPERNOVA THAT’S THE FIRST OF ITS KIND

BUT NOT THE LAST, NOW THAT ASTRONOMERS KNOW WHERE TO LOOK

AN EXTRAORDINARILY BRIGHT, EXTRAORDINARILY LONG-LASTING SUPERNOVA NAMED SN 2007BI, SNAGGED IN A SEARCH BY A ROBOTIC TELESCOPE, TURNS OUT TO BE THE FIRST EXAMPLE OF THE KIND OF STARS THAT FIRST POPULATED THE UNIVERSE. THE SUPERBRIGHT SUPERNOVA OCCURRED IN A NEARBY DWARF GALAXY, A KIND OF GALAXY THAT’S COMMON BUT HAS BEEN LITTLE STUDIED UNTIL NOW, AND THE UNUSUAL SUPERNOVA COULD BE THE FIRST OF MANY SUCH EVENTS SOON TO BE DISCOVERED.

SN 2007BI WAS FOUND EARLY IN 2007 BY THE INTERNATIONAL NEARBY SUPERNOVA FACTORY (SNFACTORY) BASED AT THE U.S. DEPARTMENT OF ENERGY’S LAWRENCE BERKELEY NATIONAL LABORATORY. THE SUPERNOVA’S SPECTRUM WAS UNUSUAL, AND ASTRONOMERS AT THE UNIVERSITY OF CALIFORNIA AT BERKELEY SUBSEQUENTLY OBTAINED A MORE DETAILED SPECTRUM. OVER THE NEXT YEAR AND A HALF THE BERKELEY SCIENTISTS PARTICIPATED IN A COLLABORATION LED BY AVISHAY GAL-YAM OF ISRAEL’S WEIZMANN INSTITUTE OF SCIENCE TO COLLECT AND ANALYZE MUCH MORE DATA AS THE SUPERNOVA SLOWLY FADED AWAY.

THE ANALYSIS INDICATED THAT THE SUPERNOVA’S PRECURSOR STAR COULD ONLY HAVE BEEN A GIANT WEIGHING AT LEAST 200 TIMES THE MASS OF OUR SUN AND INITIALLY CONTAINING FEW ELEMENTS BESIDES HYDROGEN AND HELIUM – A STAR LIKE THE VERY FIRST STARS IN THE EARLY UNIVERSE.

“BECAUSE THE CORE ALONE WAS SOME 100 SOLAR MASSES, THE LONG-HYPOTHESIZED PHENOMENON CALLED PAIR INSTABILITY MUST HAVE OCCURRED,” SAYS ASTROPHYSICIST PETER NUGENT. A MEMBER OF THE SNFACTORY, NUGENT IS THE CO-LEADER OF THE COMPUTATIONAL COSMOLOGY CENTER (C3), A COLLABORATION BETWEEN BERKELEY LAB’S PHYSICS DIVISION AND COMPUTATIONAL RESEARCH DIVISION (CRD), WHERE NUGENT IS A STAFF SCIENTIST. “IN THE EXTREME HEAT OF THE STAR’S INTERIOR, ENERGETIC GAMMA RAYS CREATED PAIRS OF ELECTRONS AND POSITRONS, WHICH BLED OFF THE PRESSURE THAT SUSTAINED THE CORE AGAINST COLLAPSE.”

“SN 2007BI WAS THE EXPLOSION OF AN EXCEEDINGLY MASSIVE STAR,” SAYS ALEX FILIPPENKO, A PROFESSOR IN THE ASTRONOMY DEPARTMENT AT UC BERKELEY WHOSE TEAM HELPED OBTAIN, ANALYZE, AND INTERPRET THE DATA. “BUT INSTEAD OF TURNING INTO A BLACK HOLE LIKE MANY OTHER HEAVYWEIGHT STARS, ITS CORE WENT THROUGH A NUCLEAR RUNAWAY THAT BLEW IT TO SHREDS. THIS TYPE OF BEHAVIOR WAS PREDICTED SEVERAL DECADES AGO BY THEORISTS, BUT NEVER CONVINCINGLY OBSERVED UNTIL NOW.”

SN 2007BI IS THE FIRST CONFIRMED OBSERVATION OF A PAIR-INSTABILITY SUPERNOVA. THE RESEARCHERS DESCRIBE THEIR RESULTS IN THE 3 DECEMBER 2009 ISSUE OF NATURE.

ON THE TRAIL OF A STRANGE BEAST

SN 2007BI WAS RECORDED ON IMAGES TAKEN AS PART OF THE PALOMAR-QUEST SURVEY, AN AUTOMATED SEARCH WITH THE WIDE-FIELD OSCHIN TELESCOPE AT THE CALIFORNIA INSTITUTE OF TECHNOLOGY’S PALOMAR OBSERVATORY, AND WAS QUICKLY DETECTED AND CATEGORIZED AS AN UNUSUAL SUPERNOVA BY THE SNFACTORY. THE SNFACTORY HAS SO FAR DISCOVERED NEARLY A THOUSAND SUPERNOVAE OF ALL TYPES AND AMASSED THOUSANDS OF SPECTRA, BUT HAS FOCUSED ON THOSE DESIGNATED TYPE IA, THE “STANDARD CANDLES” USED TO STUDY THE EXPANSION HISTORY OF THE UNIVERSE. SN 2007BI, HOWEVER, TURNED OUT NOT TO BE A TYPE IA. FOR ONE THING, IT WAS AT LEAST TEN TIMES AS BRIGHT.

“THE THERMONUCLEAR RUNAWAY EXPERIENCED BY THE CORE OF SN 2007BI IS REMINISCENT OF THAT SEEN IN THE EXPLOSIONS OF WHITE DWARFS AS TYPE IA SUPERNOVAE,” SAYS FILIPPENKO, “BUT ON A MUCH LARGER SCALE AND WITH A FAR GREATER AMOUNT OF POWER.”

“THE DISCOVERY IS A GREAT EXAMPLE OF HOW WE CAN GET ALL THE SCIENCE, IN ADDITION TO COSMOLOGY, OUT OF THE SNFACTORY SEARCH,” SAYS GREG ALDERING, SNFACTORY PROJECT LEADER, WHO WAS NOT AN AUTHOR OF THE NATURE PAPER. “BERKELEY LAB AND CALTECH’S ASTRONOMY DEPARTMENT AGREED THAT WE WOULD SPLIT THE WORK, THE LAB HANDLING THE TYPE IA’S AND CALTECH ALL THE OTHER TYPES.”

NUGENT CONTACTED GAL-YAM, THEN A CALTECH POSTDOCTORAL FELLOW, THE LEAD INVESTIGATOR FOR THE ALL-OTHER CATEGORY. “I ASKED, ARE YOU INTERESTED? HE SAID, SURE!” NUGENT THEN CONTACTED FILIPPENKO, WHO WAS ABOUT TO CONDUCT A NIGHT OF OBSERVATION WITH THE 10-METER KECK I TELESCOPE ON THE SUMMIT OF MAUNA KEA IN HAWAII. FILIPPENKO IMMEDIATELY SET OUT TO OBTAIN AN OPTICAL SPECTRUM OF THE UNUSUAL SUPERNOVA.

CALTECH RESEARCHERS SUBSEQUENTLY ACQUIRED ADDITIONAL SPECTRA WITH THE KECK TELESCOPE, AS DID PAOLO MAZZALI’S TEAM FROM THE MAX PLANCK INSTITUTE FOR ASTROPHYSICS IN GARCHING, GERMANY, USING THE VERY LARGE TELESCOPE (VLT) IN CHILE.

SAYS MAZZALI, “THE KECK AND VLT SPECTRA CLEARLY INDICATED THAT AN EXTREMELY LARGE AMOUNT OF MATERIAL WAS EJECTED BY THE EXPLOSION, INCLUDING A RECORD AMOUNT OF RADIOACTIVE NICKEL, WHICH CAUSED THE EXPANDING GASES TO GLOW VERY BRIGHTLY.”

ROLLIN THOMAS OF CRD, A MEMBER OF C3 AND THE SNFACTORY, AIDED THE EARLY ANALYSIS, USING THE FRANKLIN SUPERCOMPUTER AT THE NATIONAL ENERGY RESEARCH SCIENTIFIC COMPUTING CENTER (NERSC) TO RUN A CODE HE DEVELOPED TO GENERATE NUMEROUS SYNTHETIC SPECTRA FOR COMPARISON WITH THE REAL SPECTRUM.

“THE CODE USES HUNDREDS OF CORES TO SYSTEMATICALLY TEST A LARGE NUMBER OF SIMPLIFIED MODEL SUPERNOVAE, SEARCHING THROUGH THE CANDIDATES BY ADJUSTING PARAMETERS UNTIL IT FINDS A GOOD FIT,” SAYS THOMAS. “THIS KIND OF DATA-DRIVEN APPROACH IS KEY TO HELPING US UNDERSTAND NEW TYPES OF TRANSIENTS FOR WHICH NO RELIABLE THEORETICAL PREDICTIONS YET EXIST.” THE MODEL FIT WAS UNAMBIGUOUS: SN 2007BI WAS A PAIR-INSTABILITY SUPERNOVA.

“THE CENTRAL PART OF THE HUGE STAR HAD FUSED TO OXYGEN NEAR THE END OF ITS LIFE, AND WAS VERY HOT,” FILIPPENKO EXPLAINS. “THEN THE MOST ENERGETIC PHOTONS OF LIGHT TURNED INTO ELECTRON-POSITRON PAIRS, ROBBING THE CORE OF PRESSURE AND CAUSING IT TO COLLAPSE. THIS LED TO A NUCLEAR RUNAWAY EXPLOSION THAT CREATED A LARGE AMOUNT OF RADIOACTIVE NICKEL, WHOSE DECAY ENERGIZED THE EJECTED GAS AND KEPT THE SUPERNOVA VISIBLE FOR A LONG TIME.”

GAL-YAM ORGANIZED A TEAM OF COLLABORATORS FROM MANY INSTITUTIONS TO CONTINUE TO OBSERVE SN 2007BI AND OBTAIN DATA AS IT SLOWLY FADED OVER A SPAN OF 555 DAYS. SAYS GAL-YAM, “AS OUR FOLLOW-UP OBSERVATIONS STARTED TO ROLL IN, I IMMEDIATELY REALIZED THIS MUST BE SOMETHING NEW. AND INDEED IT TURNED OUT TO BE A FANTASTIC EXAMPLE OF HOW WE ARE FINDING NEW TYPES OF STELLAR EXPLOSIONS.”

BECAUSE IT HAD NO HYDROGEN OR HELIUM LINES, THE USUAL CLASSIFICATION SCHEME WOULD HAVE LABELED THE SUPERNOVA A TYPE IC. BUT IT WAS SO MUCH BRIGHTER THAN AN ORDINARY TYPE IC THAT IT REMINDED NUGENT OF ONLY ONE PRIOR EVENT, A SUPERNOVA DESIGNATED SN 1999AS, FOUND BY THE INTERNATIONAL SUPERNOVA COSMOLOGY PROJECT BUT UNFORTUNATELY THREE WEEKS AFTER ITS PEAK BRIGHTNESS.

UNDERSTANDING A SUPERNOVA REQUIRES A GOOD RECORD OF ITS RISE AND FALL IN BRIGHTNESS, OR LIGHT CURVE. ALTHOUGH SN 2007BI WAS DETECTED MORE THAN A WEEK AFTER ITS PEAK, NUGENT DELVED INTO YEARS OF DATA COMPILED BY NERSC FROM THE SNFACTORY AND OTHER SURVEYS. HE FOUND THAT THE CATALINA SKY SURVEY HAD RECORDED SN 2007BI BEFORE ITS PEAK BRIGHTNESS AND COULD PROVIDE ENOUGH DATA TO CALCULATE THE DURATION OF THE RISING CURVE, AN EXTRAORDINARILY LONG 70 DAYS – MORE EVIDENCE FOR THE PAIR-INSTABILITY IDENTIFICATION.

A FOSSIL LABORATORY OF THE EARLY UNIVERSE

“IT’S SIGNIFICANT THAT THE FIRST UNAMBIGUOUS EXAMPLE OF A PAIR-INSTABILITY SUPERNOVA WAS FOUND IN A DWARF GALAXY,” SAYS NUGENT. “THESE ARE INCREDIBLY SMALL, VERY DIM GALAXIES THAT CONTAIN FEW ELEMENTS HEAVIER THAN HYDROGEN AND HELIUM, SO THEY ARE MODELS OF THE EARLY UNIVERSE.”

DWARF GALAXIES ARE UBIQUITOUS BUT SO FAINT AND DIM – “THEY TAKE ONLY A FEW PIXELS ON A CAMERA,” SAYS NUGENT, “AND UNTIL RECENTLY, WITH THE DEVELOPMENT OF WIDE-FIELD PROJECTS LIKE THE SNFACTORY, ASTRONOMERS HAD WANTED TO FILL THE CHIP WITH GALAXIES” – THAT THEY’VE RARELY BEEN STUDIED. SN 2007BI IS EXPECTED TO FOCUS ATTENTION ON WHAT GAL-YAM AND HIS COLLABORATORS CALL “FOSSIL LABORATORIES TO STUDY THE EARLY UNIVERSE.”

SAYS FILIPPENKO, “IN THE FUTURE, WE MIGHT END UP DETECTING THE VERY FIRST GENERATION OF STARS, EARLY IN THE HISTORY OF THE UNIVERSE, THROUGH EXPLOSIONS SUCH AS THAT OF SN 2007BI – LONG BEFORE WE HAVE THE CAPABILITY OF DIRECTLY SEEING THE PRE-EXPLOSION STARS.”

WITH THE ADVENT OF THE MULTI-INSTITUTIONAL PALOMAR TRANSIENT FACTORY, A FULLY AUTOMATED, WIDE-FIELD SURVEY TO FIND TRANSIENTS, LED BY CALTECH’S SHRI KULKARNI, AND WITH THE AID OF THE DEEP SKY SURVEY ESTABLISHED BY NUGENT AT NERSC TO COMPILE HISTORICAL DATA FROM PALOMAR-QUEST, THE SNFACTORY, THE NEAR EARTH ASTEROID TEAM, AND OTHER SURVEYS, THE COLLABORATORS EXPECT THEY WILL SOON FIND MANY MORE ULTRABRIGHT, ULTRAMASSIVE SUPERNOVAE, REVEALING THE ROLE OF THESE SUPERNOVAE IN CREATING THE UNIVERSE AS WE KNOW IT TODAY.

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ABROAD

NIGERIA — CHURCHES INVOLVED IN TORTURE, MURDER OF THOUSANDS OF AFRICAN CHILDREN DENOUNCED AS WITCHES

THE NINE-YEAR-OLD BOY LAY ON A BLOODSTAINED HOSPITAL SHEET CRAWLING WITH ANTS, STARING BLINDLY AT THE WALL.

HIS FAMILY PASTOR HAD ACCUSED HIM OF BEING A WITCH, AND HIS FATHER THEN TRIED TO FORCE ACID DOWN HIS THROAT AS AN EXORCISM. IT SPILLED AS HE STRUGGLED, BURNING AWAY HIS FACE AND EYES. THE EMACIATED BOY BARELY HAD STRENGTH LEFT TO WHISPER THE NAME OF THE CHURCH THAT HAD DENOUNCED HIM — MOUNT ZION LIGHTHOUSE.

A MONTH LATER, HE DIED.

NWANAOKWO EDET WAS ONE OF AN INCREASING NUMBER OF CHILDREN IN AFRICA ACCUSED OF WITCHCRAFT BY PASTORS AND THEN TORTURED OR KILLED, OFTEN BY FAMILY MEMBERS. PASTORS WERE INVOLVED IN HALF OF 200 CASES OF "WITCH CHILDREN" REVIEWED BY THE AP, AND 13 CHURCHES WERE NAMED IN THE CASE FILES.

SOME OF THE CHURCHES INVOLVED ARE RENEGADE LOCAL BRANCHES OF INTERNATIONAL FRANCHISES. THEIR PARISHIONERS TAKE LITERALLY THE BIBLICAL EXHORTATION, "THOU SHALT NOT SUFFER A WITCH TO LIVE."

"IT IS AN OUTRAGE WHAT THEY ARE ALLOWING TO TAKE PLACE IN THE NAME OF CHRISTIANITY," SAID GARY FOXCROFT, HEAD OF NONPROFIT STEPPING STONES NIGERIA.

FOR THEIR PART, THE FAMILIES ARE OFTEN EXTREMELY POOR, AND SOMETIMES EVEN RELIEVED TO HAVE ONE LESS MOUTH TO FEED. POVERTY, CONFLICT AND POOR EDUCATION LAY THE FOUNDATION FOR ACCUSATIONS, WHICH ARE THEN TRIGGERED BY THE DEATH OF A RELATIVE, THE LOSS OF A JOB OR THE DENUNCIATION OF A PASTOR ON THE MAKE, SAID MARTIN DAWES, A SPOKESMAN FOR THE UNITED NATIONS CHILDREN'S FUND.

"WHEN COMMUNITIES COME UNDER PRESSURE, THEY LOOK FOR SCAPEGOATS," HE SAID. "IT PLAYS INTO TRADITIONAL BELIEFS THAT SOMEONE IS RESPONSIBLE FOR A NEGATIVE CHANGE ... AND CHILDREN ARE DEFENSELESS."

THE IDEA OF WITCHCRAFT IS HARDLY NEW, BUT IT HAS TAKEN ON NEW LIFE RECENTLY PARTLY BECAUSE OF A RAPID GROWTH IN EVANGELICAL CHRISTIANITY. CAMPAIGNERS AGAINST THE PRACTICE SAY AROUND 15,000 CHILDREN HAVE BEEN ACCUSED IN TWO OF NIGERIA'S 36 STATES OVER THE PAST DECADE AND AROUND 1,000 HAVE BEEN MURDERED. IN THE PAST MONTH ALONE, THREE NIGERIAN CHILDREN ACCUSED OF WITCHCRAFT WERE KILLED AND ANOTHER THREE WERE SET ON FIRE.

NIGERIA IS ONE OF THE HEARTLANDS OF ABUSE, BUT HARDLY THE ONLY ONE: THE UNITED NATIONS CHILDREN'S FUND SAYS TENS OF THOUSANDS OF CHILDREN HAVE BEEN TARGETED THROUGHOUT AFRICA.

CHURCH SIGNS SPROUT AROUND EVERY TWIST OF THE ROAD SNAKING THROUGH THE JUNGLE BETWEEN UYO, THE CAPITAL OF THE SOUTHERN AKWA IBOM STATE WHERE NWANAOKWO LAY, AND EKET, HOME TO MANY MORE REJECTED "WITCH CHILDREN." CHURCHES OUTNUMBER SCHOOLS, CLINICS AND BANKS PUT TOGETHER. MANY PROMISE TO SOLVE PARISHIONER'S MATERIAL WORRIES AS WELL AS SPIRITUAL ONES — EIGHT OUT OF TEN NIGERIANS STRUGGLE BY ON LESS THAN $2 A DAY.

"POVERTY MUST CATCH FIRE," INSISTS THE BORN 2 RULE CRUSADE ON ONE OF UYO'S MAIN STREETS.

"WHERE LITTLE SHOTS BECOME BIG SHOTS IN A SHORT TIME," PROMISES THE WINNER'S CHAPEL DOWN THE ROAD.

"PRAY YOUR WAY TO RICHES," ADVISES EMBASSY OF CHRIST A FEW BLOCKS AWAY.

IT'S HARD FOR CHURCHES TO CARVE OUT A CONGREGATION WITH SO MUCH COMPETITION. SO SOME PASTORS ESTABLISH THEIR CREDENTIALS BY ACCUSING CHILDREN OF WITCHCRAFT.

NWANAOKWO SAID HE KNEW THE PASTOR WHO ACCUSED HIM ONLY AS PASTOR KING. MOUNT ZION LIGHTHOUSE IN NIGERIA AT FIRST CONFIRMED THAT A PASTOR KING WORKED FOR THEM, THEN DENIED THAT THEY KNEW ANY SUCH PERSON.

BISHOP A.D. AYAKNDUE, THE HEAD OF THE CHURCH IN NIGERIA, SAID PASTORS WERE ENCOURAGED TO PRAY ABOUT WITCHCRAFT, BUT NOT TO ABUSE CHILDREN.

"WE PRAY OVER THAT PROBLEM (OF WITCHCRAFT) VERY POWERFULLY," HE SAID. "BUT WE CAN NEVER HURT A CHILD."

THE NIGERIAN CHURCH IS A BRANCH OF A CALIFORNIAN CHURCH BY THE SAME NAME. BUT THE CALIFORNIA CHURCH SAYS IT LOST TOUCH WITH ITS NIGERIAN OFFSHOOTS SEVERAL YEARS AGO.

"I HAD NO IDEA," SAID CHURCH ELDER CARRIE KING BY PHONE FROM TRACY, CALIF. "I KNEW PEOPLE BELIEVED IN WITCHCRAFT OVER THERE BUT WE BELIEVE IN THE POWER OF PRAYER, NOT PHYSICALLY HARMING PEOPLE."

THE MOUNT ZION LIGHTHOUSE — ALSO NAMED BY THREE OTHER FAMILIES AS THE ACCUSER OF THEIR CHILDREN — IS PART OF THE POWERFUL PENTECOSTAL FELLOWSHIP OF NIGERIA. THE FELLOWSHIP'S PRESIDENT, AYO ORITSEJAFOR, SAID THE FELLOWSHIP WAS THE FASTEST-GROWING RELIGIOUS GROUP IN NIGERIA, WITH MORE THAN 30 MILLION MEMBERS.

"WE HAVE GROWN SO MUCH IN THE PAST FEW YEARS WE CANNOT KEEP AN EYE ON EVERYBODY," HE EXPLAINED.

BUT FOXCROFT, THE HEAD OF STEPPING STONES, SAID IF THE ORGANIZATION WAS ABLE TO COLLECT MEMBERSHIP FEES, IT COULD ALSO POLICE ITS MEMBERS BETTER. HE HAD ALREADY WRITTEN TO THE ORGANIZATION TWICE TO ALERT IT TO THE ABUSE, HE SAID. HE SUGGESTED THE FELLOWSHIP ASK MEMBERS TO SIGN FORMS DENOUNCING ABUSE OR HOLD MEETINGS TO EDUCATE PASTORS ABOUT THE NEW CHILD RIGHTS LAW IN THE STATE OF AKWA IBOM, WHICH MAKES IT ILLEGAL TO DENOUNCE CHILDREN AS WITCHES. SIMILAR LAWS AND EDUCATION WERE NEEDED IN OTHER STATES, HE SAID.

SAM ITAUMA OF THE CHILDREN'S RIGHTS AND REHABILITATION NETWORK SAID IT IS THE MOST VULNERABLE CHILDREN — THE ORPHANED, SICK, DISABLED OR POOR — WHO ARE MOST OFTEN DENOUNCED. IN NWANAOKWO'S CASE, HIS POOR FATHER AND DEAD MOTHER MADE HIM AN EASY TARGET.

"EVEN CHURCHES WHO DIDN'T USE TO 'FIND' CHILD WITCHES ARE BEING FORCED INTO IT BY THE COMPETITION," SAID ITAUMA. "THEY ARE SEEN AS SPIRITUALLY POWERFUL BECAUSE THEY CAN DETECT WITCHCRAFT AND THE PARENTS MAY EVEN PAY THEM MONEY FOR AN EXORCISM."

THAT'S WHAT MARGARET EYEKANG DID WHEN HER 8-YEAR-OLD DAUGHTER ABIGAIL WAS ACCUSED BY A "PROPHET" FROM THE APOSTOLIC CHURCH, BECAUSE THE GIRL LIKED TO SLEEP OUTSIDE ON HOT NIGHTS — INTERPRETED AS MEANING SHE MIGHT BE FLYING OFF TO JOIN A COVEN. A SERIES OF EXORCISMS COST EYEKANG EIGHT MONTHS' WAGES, OR US$270. THE PAYMENTS BANKRUPTED HER.

NEIGHBORS ALSO ATTACKED HER DAUGHTER.

"THEY BEAT HER WITH STICKS AND ASKED ME WHY I WAS BRINGING THEM A WITCH CHILD," SHE SAID. A RELATIVE OFFERED EYEKANG FLOOR SPACE BUT ABIGAIL WAS NOT WELCOME AND HAD TO SLEEP IN THE STREETS.

MEMBERS OF TWO OTHER FAMILIES SAID PASTORS FROM THE APOSTOLIC CHURCH HAD ACCUSED THEIR CHILDREN OF WITCHCRAFT, BUT ASKED NOT TO BE NAMED FOR FEAR OF RETALIATION.

THE NIGERIA APOSTOLIC CHURCH REFUSED REPEATED REQUESTS MADE BY PHONE, E-MAIL AND IN PERSON FOR COMMENT.

AT FIRST GLANCE, THERE'S NOTHING UNUSUAL ABOUT THE LAUGHING, GRUBBY KIDS PLAYING HOPSCOTCH OR READING FROM A TATTERED DICK AND JANE BOOK BY THE GRAFFITI-SCRAWLED CINDERBLOCK HOUSE. BUT THIS IS WHERE CHILDREN LIKE ABIGAIL END UP AFTER BEING LABELED WITCHES BY CHURCHES AND ABANDONED OR TORTURED BY THEIR FAMILIES.

THERE'S A SCAR ABOVE JANE'S SHY SMILE: HER MOTHER TRIED TO SAW OFF THE TOP OF HER SKULL AFTER A PASTOR DENOUNCED HER AND REPEATED EXORCISMS COSTING A TOTAL OF $60 DIDN'T CURE HER OF WITCHCRAFT. MARY, 15, IS JUST BEGINNING TO THINK ABOUT BOYS AND HOW THEY WILL LOOK AT THE SCAR TISSUE ON HER FACE CAUSED WHEN HER MOTHER DOUSED HER IN CAUSTIC SODA. TWELVE-YEAR-OLD RACHEL DREAMED OF BEING A BANKER BUT INSTEAD WAS CHAINED UP BY HER PASTOR, STARVED AND BEATEN WITH STICKS REPEATEDLY; HER UNCLE PAID HIM $60 FOR THE EXORCISM.

ISRAEL'S COUSIN TRIED TO BURY HIM ALIVE, NWAEKWA'S FATHER DROVE A NAIL THROUGH HER HEAD, AND SWEET-TEMPERED JERRY — ALL KNEES, ELBOWS AND TOOTHY GRIN — WAS BEATEN BY HIS PASTOR, STARVED, MADE TO EAT CEMENT AND THEN SET ON FIRE BY HIS FATHER AS HIS PASTOR'S WIFE CHEERED IT ON.

THE CHILDREN AT THE HOME RUN BY ITAUMA'S ORGANIZATION HAVE BEEN MUTILATED AS CASUALLY AS THE PRAYING MANTISES THEY PLAY WITH. HOME OFFICIALS ASKED FOR THE CHILDREN'S LAST NAMES NOT TO BE USED TO PROTECT THEM FROM RETALIATION.

THE HOME WAS FOUNDED IN 2003 WITH SEVEN CHILDREN; IT NOW HAS 120 TO 200 AT ANY GIVEN TIME AS CHILDREN ARE RECONCILED WITH THEIR FAMILIES AND NEW VICTIMS ARRIVE.

HELEN UKPABIO IS ONE OF THE FEW EVANGELISTS PUBLICLY LINKED TO THE DENUNCIATION OF CHILD WITCHES. SHE HEADS THE ENORMOUS LIBERTY GOSPEL CHURCH IN CALABAR, WHERE NWANAOKWO USED TO LIVE. UKPABIO MAKES AND DISTRIBUTES POPULAR BOOKS AND DVDS ON WITCHCRAFT; IN ONE FILM, A GROUP OF CHILD WITCHES PULL OUT A MAN'S EYEBALLS. IN ANOTHER BOOK, SHE ADVISES THAT 60 PERCENT OF THE INABILITY TO BEAR CHILDREN IS CAUSED BY WITCHCRAFT.

IN AN INTERVIEW WITH THE AP, UKPABIO IS ACCOMPANIED BY HER LAWYER, CHURCH OFFICIALS AND PERSONAL FILM CREW.

"WITCHCRAFT IS REAL," UKPABIO INSISTED, BEFORE DENOUNCING THE PHYSICAL ABUSE OF CHILDREN. UKPABIO SAYS SHE PERFORMS NON-ABUSIVE EXORCISMS FOR FREE AND WAS NOT AWARE OF OR RESPONSIBLE FOR ANY MISINTERPRETATION OF HER MATERIALS.

"I DON'T KNOW ABOUT THAT," SHE DECLARED.

HOWEVER, SHE THEN ACKNOWLEDGED THAT SHE HAD SEEN A PASTOR FROM THE APOSTOLIC CHURCH BREAK A GIRL'S JAW DURING AN EXORCISM. UKPABIO SAID SHE PRAYED OVER HER THAT NIGHT AND CAST OUT THE DEMON. SHE DID NOT RESPOND TO QUESTIONS ON WHETHER SHE TOOK THE GIRL TO HOSPITAL OR COMPLAINED ABOUT THE INJURY TO CHURCH AUTHORITIES.

AFTER ACTIVISTS PUBLICLY IDENTIFIED LIBERTY GOSPEL AS DENOUNCING "CHILD WITCHES," ARMED POLICE ARRIVED AT ITAUMA'S HOME ACCOMPANIED BY A CHURCH LAWYER. THREE CHILDREN WERE INJURED IN THE FRACAS. ITAUMA ASKED THAT OTHER CHURCHES IDENTIFIED BY CHILDREN NOT BE NAMED TO PROTECT THEIR VICTIMS.

"WE CANNOT AFFORD TO MAKE ENEMIES OF ALL THE CHURCHES AROUND HERE," HE SAID. "BUT WE KNOW THE VAST MAJORITY OF THEM ARE INVOLVED IN THE ABUSE EVEN IF THEIR HEADQUARTERS AREN'T AWARE."

JUST MENTIONING THE NAME OF A CHURCH IS ENOUGH TO FRIGHTEN A GROUP OF BUBBLY CHILDREN AT THE HOME.

"PLEASE STOP THE PASTORS WHO HURT US," SAID JERRY QUIETLY, TOUCHING THE SCARS ON HIS FACE. "I BELIEVE IN GOD AND GOD KNOWS I AM NOT A WITCH."

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FAMOUS QUOTES

ARISTOTLE (384 BC – 322 BC) 62 YEARS

HE WAS A GREEK PHILOSOPHER, A STUDENT OF PLATO AND TEACHER OF ALEXANDER THE GREAT. HE WROTE ON MANY SUBJECTS, INCLUDING PHYSICS, METAPHYSICS, POETRY, THEATER, MUSIC, LOGIC, RHETORIC, POLITICS, GOVERNMENT, ETHICS, BIOLOGY, AND ZOOLOGY. TOGETHER WITH PLATO AND SOCRATES (PLATO'S TEACHER), ARISTOTLE IS ONE OF THE MOST IMPORTANT FOUNDING FIGURES IN WESTERN PHILOSOPHY. HE WAS THE FIRST TO CREATE A COMPREHENSIVE SYSTEM OF WESTERN PHILOSOPHY, ENCOMPASSING MORALITY AND AESTHETICS, LOGIC AND SCIENCE, POLITICS AND METAPHYSICS.

ARISTOTLE'S VIEWS ON THE PHYSICAL SCIENCES PROFOUNDLY SHAPED MEDIEVAL SCHOLARSHIP, AND THEIR INFLUENCE EXTENDED WELL INTO THE RENAISSANCE, ALTHOUGH THEY WERE ULTIMATELY REPLACED BY NEWTONIAN PHYSICS. IN THE BIOLOGICAL SCIENCES, SOME OF HIS OBSERVATIONS WERE CONFIRMED TO BE ACCURATE ONLY IN THE NINETEENTH CENTURY. HIS WORKS CONTAIN THE EARLIEST KNOWN FORMAL STUDY OF LOGIC, WHICH WAS INCORPORATED IN THE LATE NINETEENTH CENTURY INTO MODERN FORMAL LOGIC. IN METAPHYSICS, ARISTOTELIANISM HAD A PROFOUND INFLUENCE ON PHILOSOPHICAL AND THEOLOGICAL THINKING IN THE ISLAMIC AND JEWISH TRADITIONS IN THE MIDDLE AGES, AND IT CONTINUES TO INFLUENCE CHRISTIAN THEOLOGY, ESPECIALLY EASTERN ORTHODOX THEOLOGY, AND THE SCHOLASTIC TRADITION OF THE CATHOLIC CHURCH. HIS ETHICS, THOUGH ALWAYS INFLUENTIAL, GAINED RENEWED INTEREST WITH THE MODERN ADVENT OF VIRTUE ETHICS. ALL ASPECTS OF ARISTOTLE'S PHILOSOPHY CONTINUE TO BE THE OBJECT OF ACTIVE ACADEMIC STUDY TODAY. THOUGH ARISTOTLE WROTE MANY ELEGANT TREATISES AND DIALOGUES (CICERO DESCRIBED HIS LITERARY STYLE AS "A RIVER OF GOLD"), IT IS THOUGHT THAT THE MAJORITY OF HIS WRITINGS ARE NOW LOST AND ONLY ABOUT ONE-THIRD OF THE ORIGINAL WORKS HAVE SURVIVED.

"THERE MUST BE A REALITY THAT CAUSES

BUT IS ITSELF UNCAUSED

(OR, A BEING THAT MOVES BUT IS ITSELF UNMOVED).

WHY? BECAUSE IF THERE IS AN INFINITE REGRESSION OF CAUSES,

THEN BY DEFINITION THE WHOLE PROCESS COULD NEVER BEGIN."