

## SYMPOSIUM TALK ON THE 360 DAY TROPICAL YEAR

THE PURPOSE OF MY PAPER IS TO EVALUATE THE CONTENTION THAT THE EARTH HAD A 360 DAY TROPICAL YEAR IN THE HISTORIC PAST, NOT 365 1/4 DAYS AS IT IS TODAY BUT AN EXACT 360 DAYS. AND THAT THE LUNAR MONTH WAS NOT ITS PRESENT 29 1/2 DAYS BUT AN EXACT 30 DAYS!

IN HIS BOOK WORLD'S IN COLLISION VELIKOVSKY QUOTES MANY SOURCES SHOWING NATION AFTER NATION WITH A 360 DAY CALENDAR YEAR MADE UP OF TWELVE 30 DAY MONTHS, AND WITH NO MENTION OF ANY INTERCALARY PERIOD. HE ALSO QUOTES HINDU OBSERVATIONS OF THE HEAVENS SHOWING PLANETARY PERIODS DIFFERENT THAN THEIR PRESENT DAY MEASURE. THESE PERIODS ARE "EASY TO CALCULATE AGAINST THE BACKGROUND OF FIXED STARS . . . ABOUT FIVE DAYS TOO SHORT FOR SATURN, OVER FIVE . . . FOR JUPITER, ELEVEN . . . FOR MARS, EIGHT OR NINE . . . FOR VENUS, LESS THAN TWO . . . FOR MERCURY." (PP 354,5)

FROM A BIBLICAL STANDPOINT WE HAVE THE EXAMPLES OF JOSHUA'S LONG DAY AND ALSO THE RETREAT OF THE SHADOW OF THE SUNDIAL OF AHAZ SUGGESTING THAT SUCH A YEAR AND MONTH MIGHT BE EASILY OBTAINED BY SLOWING DOWN OR SPEEDING UP THE ROTATION OF THE EARTH. AND THAT SUCH A CHANGE WOULD BE WELL WITHIN THE CREATOR'S DOMAIN. A SLOWING OF 1.5% WOULD PRODUCE A NEAT TROPICAL YEAR OF 360 DAYS; BUT THE OPPOSITE COURSE, AN INCREASE IN ROTATIONAL SPEED OF 1.6% WOULD BE REQUIRED TO PRODUCE THE 30 DAY LUNAR MONTH. OBVIOUSLY THE ANSWER IS ELSEWHERE.

WHAT ACTUAL EVIDENCE IS THERE THAT THE LUNAR MONTH, TROPICAL YEAR AND PLANETARY PERIODS HAVE BEEN DIFFERENT DURING MAN'S SOJOURN ON EARTH? THE 360 DAY UNIT COULD INSTEAD BE A "DAY COUNT", AS IN THE MAYAN SYSTEM WHICH COUNTS TIME IN UNITS OF 360S THAT CONTINUE ENDLESSLY WITHOUT INTERCALATION FROM A 3113 B.C. STARTING POINT.

OR THE 360 DAY PERIOD MIGHT BE A CALENDAR YEAR FOLLOWED BY A 5 DAY PERIOD AS IN EGYPT. OR THE 5 DAYS PER YEAR MIGHT BE ALLOWED TO ACCUMULATE FOR 6 YEARS AND THEN ADD A 30 DAY MONTH.

IN INDIA TWO GROUPS USING THE SAME CALENDAR BUT SEPARATED FROM EACH OTHER REESTABLISHED COMMUNICATION ONLY TO FIND THEY WERE OUT OF STEP BY 30 DAYS. ONE HAD FORGOTTEN AN ANCIENT RULE TO INTERCALATE AN ADDITIONAL 30 DAY MONTH EVERY 120 YEARS TO ACCOUNT FOR THE ADDITIONAL  $1/4$  DAY IN THE TROPICAL YEAR.

ADDED EVIDENCE FOR THE EXISTENCE OF THE  $365 \frac{1}{4}$  DAY TROPICAL YEAR IN THE PAST COMES FROM THE DELAY IN EGYPT'S ACCEPTANCE OF THE JULIAN CALENDAR UNTIL 26 B.C. BECAUSE, "A 1460 YEAR SOTHIC CYCLE HAD TERMINATED THEN". EGYPT'S TOO SHORT 365 DAY CALENDAR FORMED A 1460 YEAR SOTHIC CYCLE WITH THE  $365 \frac{1}{4}$  DAY JULIAN CALENDAR. ONE WOULD CONCLUDE FROM THIS STATEMENT THAT THE TROPICAL YEAR HAD BEEN STABLE FROM THE EXODUS TILL 26 B.C.

VELIKOVSKY'S CONTENTION FOR THE 360 DAY TROPICAL YEAR AND 30 DAY LUNAR MONTH GAINED WIDESPREAD SUPPORT FROM BIBLE ENTHUSIASTS BECAUSE OF THE 360 DAY "PROPHETIC YEAR" OF 360 DAYS MADE UP OF TWELVE 30 DAY MONTHS. AND ALSO FROM THE ACCOUNT OF NOAH'S FLOOD WHICH PREVAILED FOR 150 DAYS, FROM THE 17TH DAY OF THE 2ND MONTH TO THE 17TH DAY OF THE 7TH MONTH; FIVE FULL MONTHS EQUALING EXACTLY 150 DAYS!

THE FIRST ITEM THAT STRUCK ME SOME TEN YEARS AGO IN CONSIDERING THIS PROBLEM OF ALTERED PLANETARY AND LUNAR PERIODS, WAS THAT THE UNUSUAL HINDU SYNODIC PERIODS WERE ALL SHORTER THAN THE ONES WE KNOW TODAY. PICKING UP A SLIDE RULE, MY CURIOSITY WAS FURTHER AROUSED TO NOTE THAT THEY ALL SEEMED TO BE ALTERED BY ABOUT THE SAME PERCENTAGE! THIS SHOULD NOT BE THE CASE. IF THE EARTH WERE IN A SMALLER, FASTER ORBIT, THE TWO INNER PLANETS (VENUS AND MERCURY) SHOULD HAVE LENGTHENED PERIODS FOR IT WOULD TAKE THEM LONGER TO OVERTAKE THE FASTER MOVING EARTH.

ONLY THE OUTER PLANETS (MARS, JUPITER AND SATURN) SHOULD HAVE SHORTER PERIODS FOR THE EARTH WOULD OVERTAKE THEM MORE QUICKLY; AND ALL PERIODS SHOULD BE ALTERED BY A DIFFERENT PERCENTAGE. THUS PUTTING THE EARTH INTO A SMALLER, FASTER ORBIT IS NOT THE SOLUTION TO THESE HINDU OBSERVATIONS.

A CAREFUL CHECK WITH A CALCULATOR SHOWED THAT DIVIDING OUR MODERN SYNODIC PERIODS FOR THE PLANETS BY  $365 \frac{1}{4}$  AND MULTIPLYING BY 360 WOULD BRING THEM INTO EXACT ACCORD WITH THE ODD HINDU OBSERVATIONS! ONE MUST CONCLUDE FROM THIS RELATIONSHIP THAT THE HINDU FIGURES ARE EVIDENCE FOR A STABLE SOLAR SYSTEM WITH ALL PLANETS IN THEIR PROPER ORBITS.

THERE MIGHT BE A TEMPTATION TO SAY, LEAVE THE EARTH AND PLANETS IN THEIR PRESENT ORBITS AND DECREASE EARTH'S ROTATIONAL SPEED 1.5% SO THAT THE PERIODS WILL AGREE WITH THE HINDU OBSERVATIONS; THEN MOVE THE MOON FARTHER AWAY SO THAT THERE WILL BE A 30 DAY LUNAR MONTH.

THERE ARE A VARIETY OF OBJECTIONS. SLOWING THE EARTH'S ROTATION TO AGREE WITH THE HINDU FIGURES HAS CHANGED THE MOON'S PERIOD FROM  $29 \frac{1}{2}$  TO ABOUT 29 DAYS; MOVING THE MOON TO A GREATER DISTANCE WILL THEN CHANGE ITS PERIOD TO 30 DAYS, BUT ALSO CHANGE ITS APPARANT SIZE, AND CHANGE ITS EFFECT ON THE EARTH'S TIDES WHICH WOULD IN TURN CHANGE THE PERIOD OF REGRESSION OF THE MOON'S NODES WHICH WOULD IN TURN AFFECT ECLIPSE CYCLES. THE 19 YEAR SOLAR-LUNAR CYCLE WOULD ALSO CEASE TO EXIST.

IT APPEARS THAT THE HEAVENS WERE "SET" IN ORDER FOR MANKIND WITH THE SUN AND MOON HAVING THE SAME APPARANT SIZE. THE 19 YEAR CYCLE WITH 12 YEARS HAVING 12 LUNAR MONTHS AND 7 HAVING AN INTERCALARY MONTH SEEMS PROVIDENTIAL. THE SLOW PRECESSION OF THE EARTH'S AXIS CAUSES THE FIRST POINT OF ARIES TO MOVE WESTWARD  $1^{\circ}$  IN 72 YEARS, OR A FASTER  $1^{\circ}$  IN 60 YEARS FROM THE EASTWARD MOVING PERIHELION POINT, WHICH TWO POINTS ARE TODAY ABOUT  $100^{\circ}$  APART AND THUS 6000 YEARS AGO (AT THE TIME BIBLICAL THEOLOGY PLACES MAN'S CREATION) THE TWO COINCIDED!

THERE IS FURTHER EVIDENCE THAT THE 19 YEAR CYCLES EXISTED THROUGHOUT MAN'S HISTORY AND THAT ANCIENT PLANETARY PERIODS WERE IDENTICAL TO THOSE WE KNOW TODAY. THIS BEING TRUE, WE MUST THEN CONCLUDE THAT THE HINDUS WERE VIEWING PLANETARY SYNODIC PERIODS IN A DIFFERENT WAY, AND THAT THE 360 DAY YEAR AND 30 DAY MONTH ARE LIKewise THE RESULT OF A DIFFERENT VANTAGE POINT, OR DIFFERENT DEFINITIONS ON THE WORDS DAY, MONTH AND YEAR.

IN VELIKOVSKY'S BOOK, DECANS WERE ASSUMED TO BE TEN DAY PERIODS OF TIME. CONSIDER FOR A MOMENT THE BABYLONIAN DESCRIPTION OF THE YEAR; THE ZODIAC WAS "DIVIDED INTO THIRTY-SIX DECANS, A DECAN BEING THE SPACE THE SUN COVERED IN RELATION TO THE FIXED STARS." THE 36 DECANS (EACH  $10^{\circ}$  LONG) COMPOSED THE ENTIRE YEAR. VELIKOVSKY SUPPOSED THEM TO BE TEN ROTATIONS OF THE EARTH ON ITS AXIS. YET THE DEFINITION JUST GIVEN SAYS A DECAN IS THE "SPACE THE SUN COVERED".

THE TWO TERMS ARE SIMILAR IN TIME LENGTH BUT VARY WITH REGARD TO EACH OTHER. FROM AUTUMNAL EQUINOX TO SPRING EQUINOX THE SUN MOVES  $180^{\circ}$  AND THE EARTH ROTATES ALMOST EXACTLY 180 TIMES ON ITS AXIS; BUT FROM SPRING TILL SUTUMN, THE EARTH ROTATES 185 TIMES WHILE THE SUN MOVES THE BALANCE OF  $180^{\circ}$  TO COMPLETE THE  $360^{\circ}$  CIRCUIT OF THE HEAVENS.

A DECAN IS THUS TEN DEGREES OF EASTWARD MOVEMENT OF THE SUN THROUGH THE STARS, AND IS SOMETIMES EQUAL TO TEN TURNS OF THE EARTH ON ITS AXIS; WHILE SOMETIMES MORE THAN TEN TURNS ARE REQUIRED. HERE THEN IS THE SOLUTION TO THE ODD HINDU OBSERVATIONS; THEY WERE MEASURING THE TIME OF THE PLANETARY PERIODS IN TERMS OF DEGREES THROUGH WHICH THE SUN MOVED, NOT IN TERMS OF EARTH ROTATIONS!

AN INDIAN WORK IS QUOTED AS TELLING OF A YEAR OF 12 MONTHS, A MONTH CONSISTING OF 30 DAYS, A DAY CONSISTING OF 60 NADIS, A NADI OF 60 VINADIKAS. WE SHOULD HAVE IMMEDIATELY RECOGNIZED OUR OWN SYSTEM OF MEASURING, NOT DAYS, BUT DEGREES OF ARC. WE ALSO DIVIDE THE CIRCUIT OF

THE HEAVENS INTO 12 SIGNS OF THE ZODIAC, EACH SIGN INTO 30 DEGREES, EACH DEGREE INTO 60 MINUTES OF ARC, (NOT OF TIME), AND EACH MINUTE OF ARC INTO 60 SECONDS OF ARC. THE SYSTEMS ARE IDENTICAL, DIFFERING ONLY IN THE NAMES GIVEN TO THE UNITS.

PART OF THE 360 DAY PROBLEM AS CITED BY VELIKOVSKY LIES IN THE STRUCTURE OF CALENDARS AS MENTIONED EARLIER. EVEN OUR CURRENT GREGORIAN CALENDAR CONTAINS A VESTAGE OF AN EARLIER 360 DAY FRAMEWORK WITH 12 MONTHS OF 30 DAYS EACH, PLUS A 5 DAY INTERCALARY PERIOD. WE STILL CALL LEAP YEARS "BISSEXTILE", REFERRING BACK TO THE TIME WHEN THE ADDED DAY WAS INSERTED DIRECTLY AFTER FEBRUARY 23 (DAY NUMBER 360!) AND WHEN ONLY 5 MORE DAYS REMAINED IN THE CALENDAR YEAR BEFORE THE KALENDS OF MARCH. DAY NUMBER 300 WAS THE WINTER SOLSTICE AND IT WAS ALSO DECEMBER 24, WITH A "NEW SUN" TO BE BORN ON DECEMBER 25! AND DAY 210 (ALSO A MULTIPLE OF 30) WAS SEPTEMBER 26, THE AUTUMNAL EQUINOX.

OUR NEXT STEP IS TO REVIEW THE HEBREW, MAYAN AND CHINESE CALENDARS AND CHRONOLOGIES AND THEIR 19 YEAR, 52 YEAR AND 60 YEAR CYCLES RESPECTIVELY. FIRST, A BRIEF HISTORY OF ASTRONOMY SHOWING EVIDENCE THAT THE HEAVENS WERE MAPPED AND DIVIDED INTO CONSTELLATIONS AROUND 3000 B.C.

JOSEPHUS SAYS THAT SETH, THE SON OF ADAM, AND HIS CHILDREN WERE THE ORIGINATORS OF "THAT PECULIAR SORT OF WISDOM WHICH IS CONCERNED WITH THE HEAVENLY BODIES". A VARIETY OF SOURCES TELL OF THE 12 SIGNS OF THE ZODIAC, EACH ACCOMPANIED BY 3 DECANS, FOR A TOTAL OF 48 ANCIENT CONSTELLATIONS, AN ACCOMPLISHMENT BY MAN IN THE 3RD MILLENNIUM B.C.

THE TIME OF THE ORIGIN OF THE ZODIAC CAN BE DETERMINED BY NOTING THAT THE 4 ROYAL STARS (ALDEBARAN, REGULUS, ANTARES AND FOMALHAUT) MARKED THE SEASON POINTS 5000 YEARS AGO. A 5TH BRIGHT STAR MARKED THE NORTH CELESTIAL POLE, THUBAN (OR ALPHA DRACONIS). THE POLE WAS CLOSEST TO THIS STAR IN 2800 B.C.

WHEN THE ANCIENTS MAPPED OUT THE HEAVENS THEY OMITTED A LARGE ROUGHLY CIRCULAR AREA IN THE SOUTHERN HEMISPHERE OPPOSITE TO THE STAR THUBAN, AND HENCE CENTERED AROUND THE SOUTH CELESTIAL POLE OF 2800 B.C. IT IS CONCLUDED FROM THE SIZE AND SOUTHERN LOCATION OF THIS UNMAPPED CELESTIAL AREA THAT THE PEOPLE WHO MAPPED THE HEAVENS AND DIVIDED IT INTO 48 CONSTELLATIONS LIVED BETWEEN 36° AND 42° NORTH LATITUDE, AND AROUND 2800 B.C.

ADDITIONAL SUPPORT FOR THIS APPROXIMATE DATE IS GIVEN BY THEIR LISTING OF TAURUS AS THE FIRST CONSTELLATION OF THE ZODIAC AND AS BEGINNING THE YEAR. THE FIRST POINT OF ARIES HAS PRECESSED WESTWARD FROM TAURUS THROUGH ARIES AND WELL INTO PISCES IN OUR DAY; AND EVENTUALLY IT WILL BE IN AQUARIUS. THE TIME WHEN IT WAS IN TAURUS WAS 2450 B.C.

BASED ON THE TESTIMONY OF THE HEAVENS AS WITNESSED BY MULTIPLE AUTHORS AND ASTRONOMERS, WE CAN FAIRLY CONCLUDE THAT ASTRONOMY AND ITS COUNTS OF TIME, ITS CALENDARS, ITS LUNAR AND PLANETARY CYCLES RIGHTLY BELONG TO THE AGE DESCRIBED IN THE FIRST CHAPTERS OF GENESIS. IT IS STATED BY MAIMONIDES THAT:

"In the days of Enos (and his days bracket the foundation dates of Hebrew, Mayan, Chinese and Indian chronologies) the son of Seth, the sons of Adam erred with great error, and the counsel of the wise men of that age became brutish . . . They said . . . God hath created these stars and spheres (referring to the timekeeping services of the sun, moon, planets and stars) . . . and imparted honor to them . . . and it is fitting that men should laud and glorify and give them honor. For this is the will of God . . . they began to build temples unto the stars, and to offer sacrifices unto them. . . . And this was the root of idolatry . . . for . . . there stood up false prophets among the sons of Adam, who said 'Worship such a star . . . make an image of it' . . . in the process of time . . . no people knew aught save images of wood and stone, and temples of stone . . . And the wise men that were among them . . . thought that there was no God save the stars and spheres . . . save a few persons in the world, such as Enoch, Methusaleh, Noah, Shem, and Heber . . . till that pillar of the world, Abraham, our father, was born."

THREE SYSTEMS OF TIMEKEEPING GO BACK INTO THAT ANCIENT WORLD:

1ST) THE 19 YEAR CYCLE OF 235 LUNAR MONTHS OF THE HEBREW CALENDAR AND

ITS CHRONOLOGY GOING BACK TO 3761 B.C. FOR THE BEGINNING OF THE CALENDAR, AND 4024 B.C. FOR ADAM'S CREATION. 2ND) THE MAYAN COUNT OF TIME WITH 3113 B.C. AS ITS BASE DATE AND COUNTING TIME IN 52 YEAR CYCLES WHICH ARE PLANETARY IN ORIGIN. 3RD) THE CHINESE 60 YEAR CYCLES WHICH ARE CONSIDERED TO BEGIN WITH 2637 B.C., THE 61ST YEAR OF HWANG-TE. THEY ARE ALSO PLANETARY IN NATURE. THESE UNITS OF TIME AND THE BEGINNING POINTS OF THEIR CHRONOLOGIES PROVIDE CONVINCING EVIDENCE THAT THE ANCIENT MEASUREMENTS OF PLANETARY AND LUNAR PERIODS AGREE WITH MODERN PERIODS. AND THEY ARE IN AGREEMENT WITH THE 3000 B.C. DATE FOR THE MAPPING OF THE HEAVENS BY THE ANCIENTS.

HOW DID THE PLANETARY CYCLES LEND THEMSELVES TO CALENDAR PERIODS AND THUS TO RELIGIOUS FESTIVALS AND IDOLATRY? THE ORIGINAL SOLAR-LUNAR SYSTEM WITH ITS 7 DAY WEEK (A WEEK LACKING THE PLANETARY NAMES WHICH SHOW UP ONLY THOUSANDS OF YEARS LATER) WAS NOT IDOLATROUS.

IT WAS SUPPLANTED BY THE 52 YEAR CYCLE AND THE 60 YEAR CYCLE, AND IN OUR MODERN WORLD BY THE JULIAN AND GREGORIAN CALENDARS WHICH ARE PURELY SOLAR BUT WITH PLANETARY NAMES ON THE DAYS OF THE WEEK. THE MOON IS NEGLECTED EXCEPT IN THE DETERMINATION OF EASTER. THE ORIGINAL TIMEKEEPING SYSTEM APPEARS TO HAVE HAD A 360 DAY COUNT OF TIME IN ADDITION TO THE 7 DAY WEEK, THE LUNAR MONTH AND 19 YEAR CYCLE.

IN 3112 B.C., WHICH IS FORTY-EIGHT 19S AFTER ADAM'S CREATION DATE, THE 52 YEAR CYCLES OF THE MAYANS HAVE THEIR BEGINNING. THE CYCLE IS BASED ON A 365 DAY CALENDAR AND A 260 DAY COUNT OF TIME. ONE QUICKLY RECOGNIZES THE 260 DAY PERIOD TO BE  $1/3$  OF THE 780 DAY SYNODIC PERIOD OF MARS. FIVE COUNTS OF 260 ARE 1300 DAYS, EQUAL ALMOST EXACTLY TO 44 SYNODIC MONTHS AS WE KNOW THEM. SIXTEEN COUNTS OF 260 ARE EQUAL VERY CLOSELY TO 11 SYNODIC PERIODS OF SATURN, THERE BEING BUT A SINGLE DAY'S DIFFERENCE. HERE THEN IS EVIDENCE THAT MARS, THE MOON, AND SATURN ARE ALL IN THEIR PROPER ORBITS AND THAT EARTH HAD ITS NORMAL TROPICAL YEAR.

THESE 52 YEAR CYCLES GO BACK INTO THE DAYS OF ENOS AND THEIR 365 AND 260 DAY "COUNTS OF TIME" MUST DO LIKEWISE.

THE MAYAN 365 DAY CALENDAR YEAR IS ALSO TIED TO THE HEAVENS, 8 SUCH CALENDAR YEARS BEING EQUAL ALMOST EXACTLY TO 5 SYNODIC PERIODS OF VENUS, THIS 8 YEAR CYCLE BEING THE APPARENT ORIGIN OF THE OLYMPIC CYCLE OF 8 YEARS WHICH WAS LATER DIVIDED INTO TWO 4 YEAR CYCLES. THIS 2920 DAY CYCLE REQUIRES A 584 DAY SYNODIC PERIOD FOR VENUS, WHICH IS POSSIBLE ONLY WITH BOTH EARTH AND VENUS IN THEIR PRESENT ORBITS.

AZTECS AS WELL AS MAYANS HAD A 52 YEAR CYCLE BUT MAY HAVE INTER-CALATED A 13 DAY WEEK AT THE END OF EACH PERIOD OF 18,980 DAYS TO KEEP IN STEP WITH THE SEASONS. AT THE END OF 52 YEARS, ALL FIRES WERE EXTINGUISHED AND NEW FIRES LIT FROM A FRICTION-KINDLED FIRE ON A WOODEN SHIELD ON THE BREAST OF A HUMAN SACRIFICE, AS THE PLEIADES (LEADING TAURUS) REACHED THE ZENITH IN THE NIGHT SKY. SPANISH CONQUERORS WERE APPALLED AT THE PILES OF HUMAN SKULLS, THE CANNIBALISM AND THE BRUTALITY OF THE MAYANS AND AZTECS. IS THIS THE SAME SYSTEM OF SERVICE TO THE PLANETARY GODS BEGUN IN THE DAYS OF ENOS? IT CLAIMS A FOUNDATION DATE IN HIS LIFETIME.

THE FOUNDATION DATE OF THE 60 YEAR CHINESE CYCLES IS HELPFUL IN ESTABLISHING THE VALIDITY OF THE 3113 B.C. DATE OF MAYAN CHRONOLOGY. IS IT ONLY A COINCIDENCE THAT 416 YEARS SEPARATE 3113 AND 2697, THE FIRST YEAR OF HWANG-TE, AND THAT 416 IS A MULTIPLE OF 52, JUST AS THE SPAN OF TIME FROM ADAM TO THE MAYAN SYSTEM WAS A MULTIPLE OF 19?

THIS THIRD SYSTEM, THE CHINESE 60 YEAR CYCLE, IS ALSO PLANETARY IN STRUCTURE. SATURN COMPLETES A CIRCUIT OF THE HEAVENS IN JUST UNDER 30 YEARS, THUS MAKING 2 CIRCUITS IN 60 YEARS. JUPITER MAKES ITS CIRCUIT OF THE HEAVENS IN JUST UNDER 12 YEARS AND OVERTAKES SLOW MOVING SATURN IN JUST UNDER 20 YEARS. A SECOND OVERTAKE OCCURS IN 40 YEARS AND A THIRD IN THE 60TH YEAR, ABOUT 8<sup>0</sup> PAST THE BEGINNING MARKER, BUT 154 DAYS SHORT OF



60 YEARS, AND THUS WITH THE SUN  $152^{\circ}$  SHORT OF COMPLETING ITS CIRCUIT.

THE 59.58 YEAR LENGTH OF THIS JUPITER-SATURN CYCLE WAS THE PROBABLE MOTIVATION FOR THE REVERSE ORDER ZODIAC NAMING OF THE YEARS OF THE SHAKA CALENDAR OF THE ORIENT. A THREE-COMPONENT NAME IS GIVEN TO EACH YEAR OF THE 60 YEAR CALENDAR CYCLE. THE TERMS ELDER AND YOUNGER ALTERNATE FOR THE FIRST COMPONENT; THE TERMS WOOD, FIRE, EARTH, METAL AND WATER EACH IN TURN NAME A PAIR OF YEARS; AND THE SIGNS OF THE ZODIAC IN REVERSE ORDER (EAST TO WEST) NAME CONSECUTIVE YEARS. OUR YEAR 1976 IS THE ELDER FIRE DRAGON; NEXT YEAR IS THE YOUNGER FIRE SNAKE.

DIVIDED BY FIVE, THIS 59.58 YEAR CYCLE PRODUCES AN 11.92 YEAR PERIOD WITH THE SUN  $30.8$  DAYS, OR  $30^{\circ}.4$ , OR 1 SIGN OF THE ZODIAC SHORT (WEST) OF COMPLETING ITS 12TH CIRCUIT. AN EARLIER 12 YEAR SYSTEM HAD BEEN INSPIRED BY JUPITER'S 11.86 YEAR SIDEREAL PERIOD, IN WHICH THE PLANET SPENDS A SINGLE YEAR IN EACH SIGN, AND THEN MOVES ON EASTWARD TO THE NEXT. THE SYSTEM WAS DEFECTIVE IN THAT JUPITER'S SLIGHTLY TOO FAST ( $30^{\circ}.35$  PER YEAR) EASTWARD MOVEMENT THROUGH THE STARS CAUSES IT TO SKIP OVER ONE SIGN EVERY 86 YEARS.

IN HIS SEARCH FOR A BETTER WAY, MAN HAPPENED ONTO THE 11.92 YEAR PERIOD ( $1/5$  OF 59.58) WITH A WESTWARD POSITIONING OF THE SUN 1 SIGN IN THAT LENGTH OF TIME (OR WESTWARD 5 SIGNS IN THE WHOLE CYCLE OF 59.58 YEARS REQUIRED FOR A 3RD CONJUNCTION OF JUPITER AND SATURN). THIS REFINEMENT OF THE 12 YEAR CALENDAR SYSTEM APPARENTLY LED TO THE REVERSE ORDER NAMING OF THE YEARS OF THE 60 YEAR SYSTEM AFTER THE SIGNS OF THE ZODIAC, THEMSELVES NEWLY RENAMED TO AVOID CONFUSION WITH THE ORIGINAL SYSTEM.

TOGETHER WITH THIS 60 YEAR CYCLE, THE CHINESE HELD THE 19-YEAR METONIC CYCLE, THUS ANTEDATING THE "DISCOVERY" BY THE GREEK METON BY SEVERAL MILLENNIA. THE 76-YEAR CALLIPPIC CYCLE WAS ALSO KNOWN AT THAT TIME. IT IS STATED THAT "THE CHINESE CALENDARIST RECOGNIZED TIME UNITS LONGER THAN A YEAR, NAMELY THE CHANG OR 'CHAPTER' OF 19 YEARS OR 235

MOONS, AND THE EU OR 'CYCLE' OF 76 YEARS OR 940 MOONS OR 27,759 DAYS."

EVEN THE 4 TIMES LONGER 304-YEAR PERIOD DISCOVERED BY HIPPARCHUS IN 125 B.C. WAS VERY LIKELY KNOWN IN THE PRE-FLOOD WORLD IN THAT THE 912 YEAR SPAN OF TIME FROM ADAM TO THE MAYAN SYSTEM IS EXACTLY 3 SUCH 304-YEAR HIPPARCHUS CYCLES, AND IS A SAROS-TYPE ECLIPSE CYCLE AS WELL.

WHILE IT IS POSSIBLE THAT THE CHINESE AND GREEKS INDEPENDENTLY DISCOVERED THE 19 YEAR CYCLE; YET IT IS FAR MORE LIKELY THAT THEY RECEIVED THIS INFORMATION FROM PREVIOUS GENERATIONS. ABRAHAM, ACCORDING TO TRADITION, TAUGHT ASTRONOMY TO THE EGYPTIANS. HIS GRANDSON JOSEPH MARRIED ASENATH THE DAUGHTER OF THE ROYAL ASTRONOMER OF EGYPT. THE SPAN OF TIME FROM THE PROMISES TO ABRAHAM TILL THE EXODUS IS STATED AS "430 YEARS TO THE SELFSAME DAY", A SOLAR-LUNAR CALENDAR (KNOWN TO MOSES) SPANNING THOSE CENTURIES. DANIEL AND HIS FRIENDS WERE FOUND TO BE SUPERIOR TO THE WISE MEN OF BABYLON. THIS SAME DANIEL ALSO RULED UNDER DARIUS IN THE PERSIAN EMPIRE THAT FOLLOWED. THE GRECIAN EMPIRE IS NEXT IN LINE AND IT IS ONLY NATURAL THAT A FEW CRUMBS OF THE LEARNING OF THE PREVIOUS MILLENNIA SHOULD FILTER DOWN TO THEIR PHILOSOPHERS.

PUTTING A HISTORY OF TIMEKEEPING AND CHRONOLOGY TOGETHER IN TENTATIVE FORM, WE FIND MAKIND BEGINNING HIS SOJOURN ON EARTH WITH BOTH SOLAR AND LUNAR COUNTS OF TIME, AND LIKELY A 12 YEAR CYCLE DEPICTED BY JUPITER'S SIDEREAL PERIOD. MAN ALSO BEGAN WITH TWO ARTIFICIAL UNITS, THE 7 DAY WEEK AND A 360 DAY "COUNT OF DAYS". THE 19 YEAR PATTERN FOR THE SOLAR-LUNAR CALENDAR WOULD HAVE BEEN QUICKLY DISCOVERED.

HUMAN NATURE SOON DEMANDED CHANGE AND A PERPETUAL CALENDAR, ONE THAT NEEDED NO INTERCALATION AND THUS THERE WOULD BE NO NEED FOR THE AUTHORITY OF ADAM AND SETH. IN THE DAYS OF ENOS, A 13-DAY WEEK, A 20-DAY MONTH, A 365-DAY NON-INTERCALATED CALENDAR YEAR, PLUS A NEW COUNT OF TIME IN 360s FROM A NEW TIME BASE WERE CHOSEN. THE FRIDAY, AUGUST 11,

3113 B.C. DATE OF THIS NEW SYSTEM BEARS A VERY UNIQUE RELATIONSHIP TO THE ORIGINAL SYSTEM THAT BEGAN WITH ADAM.

ONE SCHISM LEADS TO ANOTHER AND WHAT COULD BE MORE ATTRACTIVE THAN RETURNING TO THE 19 YEAR CYCLE OF 235 LUNAR MONTHS BUT TIEING IT TO A 60 YEAR CYCLE OF JUPITER AND SATURN. THE FACT THAT CHINA ALONE HAS BROUGHT DOWN A CONTINUOUS HISTORY AND CHRONOLOGY FROM ITS EARLIEST BEGINNING IS PROOF OF THE WORKABILITY OF THIS 60 YEAR PLANETARY SYSTEM.

THE MAYAN SYSTEM APPARENTLY BRINGS US AN ACCURATE COUNT OF DAYS FROM A DATE 4 CENTURIES EARLIER THAN THE CHINESE SYSTEM. AND THE HEBREW CALENDAR BRINGS US A SOLAR-LUNAR PATTERN BEGINNING AT A POINT ANOTHER 7 CENTURIES EARLIER. THE PERPETUAL KEEPING OF THE SABBATH REACHES BACK ANOTHER MILLENNIUM TO THE TIME OF ADAM. THE BIBLE ADDS THE GENEALOGICAL RECORD FOR THE ORIGIN OF ALL NATIONS, AND FOR THE DEVELOPMENT OF THE TRIBES OF ISRAEL AND LINE OF DAVID AS WELL. TAKEN TOGETHER, IT IS POSSIBLE TO PIECE TOGETHER A PRECISE FRAMEWORK FOR MAN'S 6000 YEAR HISTORY.

IN CONCLUSION, THE HYPOTHESIS OF AN ERRATIC HEAVENS AS SUGGESTED BY IMMANUEL VELIKOVSKY CAN BE LAID TO REST, AND WITH IT THE "CAVEMAN HYPOTHESIS" FOR THE GRADUAL REALIZATION BY MAN OF THE 365 1/4 DAY LENGTH OF THE TROPICAL YEAR OVER "EONS" OF TIME. THE GREEK AND ROMAN PHILOSOPHERS WERE LATECOMERS IN THE FIELD OF ACCURATE TIMEKEEPING AND CHRONOLOGY, AND WERE THE INHERITORS OF ONLY THE "CRUMBS" OF UNDERSTANDING KNOWN IN THE EARLIER MILLENNIA.

THE SUN, MOON, PLANETS AND STARS REMAIN THE FAITHFUL TIMEKEEPERS AND SERVANTS OF MAN THEY WERE ORDAINED TO BE. FINALLY, A QUOTE FROM A SEATTLE WORLD'S FAIR PROGRAM, "IN THE NATURAL ORDER, THERE IS NO EFFECT WITHOUT A CAUSE; NO MOTION WITHOUT PURPOSE. ONLY THE SPIRIT OF MAN LIVES OUTSIDE THIS ENCOMPASSING LAW."