

STAR GAZERS  
SG 1645 - 5M  
NOVEMBER 7-13, 2016

"VENUS"

**DEAN:** WELCOME TO STAR GAZERS! I'M DEAN REGAS, ASTRONOMER FROM THE CINCINNATI OBSERVATORY.

**JAMES:** AND I'M JAMES ALBURY, DIRECTOR OF THE KIKA SILVA PLA PLANETARIUM IN GAINESVILLE, FLORIDA. AS MANY OF YOU MAY HAVE NOTICED, OUR OLD FRIEND VENUS HAS FINALLY RETURNED TO THE EARLY EVENING SKY, AND IT'S JOINED BY TWO OTHER PLANETS, SATURN AND MARS.

**DEAN:** OF ALL THE PLANETS, VENUS IS ONE OF THE MOST BEAUTIFUL AND ITS POSITION IN THE SKY HAS BEEN PAINSTAKINGLY DOCUMENTED THROUGHOUT RECORDED HISTORY. SO MUCH SO THAT WE DEVOTED THIS ENTIRE EPISODE TO OUR SISTER PLANET, NAMED AFTER THE ROMAN GODDESS OF BEAUTY AND LOVE. LET'S SHOW YOU!

---(STOP)

**DEAN:** OK, WE HAVE OUR SKIES SET TO ANY DAY THIS WEEK, SHORTLY AFTER SUNSET, FACING SOUTHWEST. YOU'LL SEE THE BRIGHT PLANET VENUS AMONG THE STARS OF SAGITTARIUS. IT IS JOINED BY SLIGHTLY DIMMER SATURN, TO ITS RIGHT, AND THE RED PLANET MARS OVER TO ITS LEFT.

**JAMES:** VENUS IS OFTEN CALLED OUR SISTER PLANET BECAUSE IT'S ALMOST THE SAME SIZE AS EARTH, ONLY 7,500 MILES IN DIAMETER. AND THE REASON IT SHINES SO BRIGHTLY IS TWO FOLD. IT'S THE CLOSEST PLANET TO THE EARTH AND IT HAS THE HIGHEST ALBEDO OF ALL THE PLANETS, WHICH MEANS THAT IT IS THE MOST REFLECTIVE. THE REASON BEING THAT VENUS IS COMPLETELY ENSHROUDED IN PERPETUAL CLOUD COVER. AND THIS CLOUD COVER ACTS LIKE A GREAT MIRROR AND REFLECTS SUNLIGHT VERY WELL.

**DEAN:** OVER THE NEXT FEW MONTHS, VENUS IS GOING TO GET HIGHER AND HIGHER IN THE SKY, AND ALONG THE WAY, IT WILL SLOWLY GET BRIGHTER. WHEN VENUS APPEARS IN THE SKY IN THE EARLY EVENING LIKE THIS, IT'S OFTEN REFERRED TO AS THE 'EVENING STAR'. VENUS STAYS IN THE EVENING SKY FOR ALMOST 9 MONTHS.

----(STOP - IN SPACE)

**DEAN:** IF WE COULD VIEW THIS FROM OUTER SPACE, AS VENUS ORBITS THE SUN, IT EVENTUALLY PASSES US, IS LOST IN THE GLARE OF THE SUN, AND REAPPEARS IN THE MORNING SKY. VENUS WILL THEN BE CONSIDERED THE MORNING STAR AND WILL BE VISIBLE FOR ANOTHER 9 MONTHS.

**JAMES:** SO RIGHT NOW, VENUS HAS JUST ROUNDED THE OPPOSITE SIDE OF THE SUN AND IS SWINGING AROUND TO MEET US ON OUR SIDE OF THE SOLAR SYSTEM. THE LAST TIME VENUS WAS ON THE SAME SIDE OF THE SUN AS EARTH WAS BACK IN AUGUST OF 2015.

----(STOP - ON EARTH)

**DEAN:** OVER THE COURSE OF A SEASON IF WE TRACE VENUS' PLACE IN THE SKY, AT THE SAME TIME EVERY DAY, IT MAKES A BIG LOOP. THEN IF WE CHART THE MOTION OVER THE COURSE OF EIGHT YEARS, WE GET SOME REALLY INTERESTING PATTERNS.

**JAMES:** VENUS' MOTION IN THE SKY COMES IN 5 FORMS. A SQUIGGLE DOWN, A LOOP DOWN, - A ZIG-ZAG - A LOOP UP - AND A SQUIGGLE UP. THAT'S FIVE PATTERNS IN EIGHT YEARS. THEN THE PATTERNS REPEAT ALMOST EXACTLY.

**DEAN:** THE ANCIENT MAYA WERE FASCINATED BY VENUS. VENUS WAS SACRED TO THE MAYA AND COINCIDENTALLY, THE 9 MONTH PERIOD OF TIME THAT VENUS SPENT IN THE EVENING SKY, MATCHED THE LENGTH OF TIME IT TOOK FOR THEM TO PLANT, TEND AND HARVEST CORN; CORN WAS A SACRED PLANT TO THE MAYA AND IT WAS THE PLANT THAT GAVE LIFE.

**JAMES:** AFTER OBSERVING VENUS FOR CENTURIES, THE MAYA DEVELOPED AN INCREDIBLY ACCURATE SET OF VENUS TABLES THAT COULD PREDICT WHERE VENUS WOULD BE IN THE SKY FOR YEARS. THEY EVEN BUILT AN OBSERVATORY FOR VENUS.

**DEAN:** THIS OBSERVATORY, NAMED EL CARACOL (TRANSLATED AS THE SNAIL) IS ALIGNED PERFECTLY SO THAT AN OBSERVER COULD SEE VENUS THROUGH ITS WINDOWS AT VENUS' NORTHERN AND SOUTHERN-MOST EXTREMES IN THE SKY, FOR EACH OF THE 5 LOOPING PATTERNS THAT VENUS PRODUCED.

----(STOP)

**JAMES:** THE MAYAN ASTRONOMERS' RECORD KEEPING OF VENUS WAS SO ACCURATE, THAT AFTER 500 YEARS, THEIR VENUS TABLES WOULD ONLY BE OFF BY ONE DAY! THEY NOTICED THE FIVE DIFFERENT PATTERNS THAT VENUS WOULD PRODUCE IN THE SKY AND THEY GAVE EACH MANIFESTATION OF VENUS A PERSONALITY REPRESENTED BY THE 5 DIFFERENT CREATURES ON THE VENUS TABLES. SOME WERE GOOD AND REPRESENTED PROSPERITY AND A PLENTIFUL HARVEST AND OTHERS WERE NOT SO GOOD AND REPRESENTED HARD TIMES AND SCARCITY.

**DEAN:** SO OVER THE REMAINING 5 MONTHS, ENJOY WATCHING THE BEAUTIFUL PLANET VENUS AS SHE GRACES THE EVENING SKY FOR ALL TO SEE.

**JAMES:** AND ITS EASY TO DO IF YOU REMEMBER TO...

**BOTH:** KEEP LOOKING UP!

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