Orchestra gives suburban concerts

Among the locations included for Detroit Symphony Orchestra concerts on the annual Hudson-DSO Metro Concerts Series, are Southfield, Troy and Pontlac.

The series, funded by the J.I. Hudson Company, offers a program of classical mulai with broad sudfence appeal. The orchestra's assistant conductor Michael Krajewick will be on the podium for each performance.

Northland Center, Southfield, will be the location for an admission free concert at 8 pm, the orchestra will play at the the location for an admission free concert at 8 pm, this evening, on Friday, at 8 pm, the orchestra will play at the Macomb Center for the Performing Artis, Garfield and Hall, Mt.Clemens.

This concert so of inferest locally because the center was designed by Maurice Allen, architect, TMP Associates

skywatch

Winter skies stage spectacular show

The month of December, always no-table for one of the year's best meteor showers as well as the solution (signal-ing the start of winter), will be espe-cially memorable this year because it of the property of the peak of the peak of the celliges of the moon for the next seven years.

The moon is at last-quarter phase on Dec. 7. It will point out the two morning planets visible this month. On the morning of Dec. 10, the moon will mark the apex of a triangle which it forms with Saturn (lower left) and the star Spica, in Virgo (lower right). Look, in the southeastern sky before sunrise.

On the morning of Dec. 11, the moon

has moved farther east (left), changing the triangle formation into a straight

Two mornings later, on the 13th, the planet Jupiter will be seen to the right of the thin crescent moon.

of the thin crescent moon.

The Geminid meteor shower reaches its maximum on the night of Dec. 13. These shooting stars (actually falling rocks burning up in our atmosphere) appear to radiate from the constellation of Gemini, which rises in the east after midnight. You can expect to see an average of 50 shooting stars per hour.

SINCE THE MOON is in its new phase on Dec. 15, it will not be in the aky during the meteor abover; hence, the list light will not interfere with the fainter meteors. The moon's light

Winter officially begins at 11:39 p.m. on Dec. 21. The sun rises in the southwest (on the 21nd) at 7:59 a.m., is only about 13 degrees above the horizon at noon and sets at \$102 p.m. There are only about nine hours of daylight, but cheer up — after this the days begin to grow longer.

The moon is at first quarter phase on Dec. 23 and is full one week later on the 30th. A total eclipse of the moon occurs on that morning as the moon slides through the earth's shadow.

Since the moon completes an orbit around the earth every 29½ days, you might expect to see an eclipse every month. Since the moon's orbit is tilted month. Since the moon's orbit is filted six degrees, the moon generally passes above or below the shadow cant by the earth. Occasionally, when moon, earth and sun are properly aligned, an eclipse occurs.

On Dec. 29, the moon rises in the northeast at 4:27 p.m. and is high in the south at midnight. The eclipse officially begins at 3:32 a.m., Dec. 30. This is when the moon enters the penumbra, the faint outer shadow of the earth. Not

spoiled things for the 1981 Geminids and will do the same in 1983.

Mars will be found 1.8 degrees above the crescent moon in the southwest sky on the evening of Dec. 18.

At 4:30 a.m., the moon begins to pass into the umbra, the darkest part of the moon. No 5:23 are night from the moon begins to pass the company of the darkest part of the moon. At 4:50 a.m., the moon begins to pass into the umbra, the darkest part of the shadow. By 5:22 a.m. half the moon will be covered in a dull reddish color.

TOTALITY begins at 5:58 a.m. The moon is now 22 degrees above the eastern horizon. The mid-point of the cellpse is at 6:29 a.m. This will be the darkest part of the cellpse. If there is a lot of dust in our atmosphere, the moon might disappear from view.

The total phase ends at 5:59 a.m. Once again the moon is half covered at 7:35 a.m. Sunrise is at 8:02 a.m., and moonset is at 8:12 a.m.

The best time to observe the eclipse is during its total phase, 5:58-6:59 a.m.

The next total lunar eclipse that we will have a chance to observe will be Aug. 16, 1989.

White Cranbrook's telescope will not be available for viewing during the celipse, the observatory is open every Saturday night from 2:30 to 10 p.m. for stargazing. For more information, call 645-3200.

The author is coordinator of the planetarium and observatory at Cranbrook Institute of Science)

Plan before you deck the halls

This is the week when you "drag out" your holiday decorations of many years and evaluate their worth for the com-

and evaluate their worth for the com-ing season.

Allow yourself plenty of time as those boxes are filled with memories to be savored. It is easy to change their previous roles for new locations. As you plan ahead don't overlook the joy of allowing some decerations to show in your street-side windows to be shared by strollers.

of allowing some decorations to show in your street-side windows to be shared by strollers.

If you have children it may appeal to you to take the children out to the woods to cut your own tree. Remember Christmas is "building memories." Tree-farm locations will be advertised. For those who are homebound it may appeal to you to secure an evergreen branch about 12-to-15-inches long and stick it in a large baking potato— (to insure motisture through the holidays). Cover the potato with foil and you are ready to decorate it. Maybe two branches will be needed to provide adequate fullness. Small velvet bows are pretty as a trim. Look in your traditional box and you will come up with the answer.

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pile, and put the sand two inches deep in the open bag. Then go to the local hardware and buy plumber's candles. They are chubby and last a long time. At the appropriate occasion bedeck your porch and sidewalk with the lighted bugs as a welcome for guests.

Our town has many blocks which follow this decorating scheme the night before Christmans. Promise yourself that you will take friends and family on a driving tour the night before Christmas to see the beauty of our community which cares. This is a wonderful tradition to establish followed by appropriate hospitality at home.

At 2nd p.m. Priday, we are having only the common of the control o

THIS IS A GOOD time to corral a few medium-size brown bags. Beg trip to Philadelphia and Wilmington some sand from someone who has a which was packed with never-to-be-for-

WELL TO

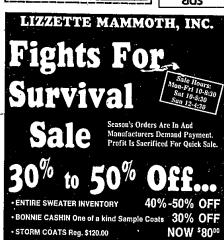
gotten experiences. There was the stop at Longwood (the most beautiful garden in the world, and I have seen them all). We went behind stage and saw the mechanics of running the outdoor theater with its curtain of water. Then there was the dinner within the greenhouses — equivalent to at least

one large city block — with more than 15,000 mums in full growth.

There were refreshments before din-ner with beautiful music, plus endless exhibits of exotic, perfectly groomed plants from all over the world, ending with a gourmet meal.

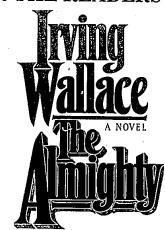






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