Planetarium for the Deaf
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A planetarium is primarily visually orientated. It may be fortunate enough to have an elaborate supporting sound system, as is the case at the Vanderbilt Planetarium, but the distinctive characteristics that make it a planetarium are the visual effects. This being the case, a planetarium would seem to be the ideal place to produce shows for the deaf. How would such shows differ from the standard program? What special problems would be encountered and what modifications would be necessary in equipment or procedure? Those of you who have read the September issue (Vol. 1, No. 2) of The Planetarian have been introduced to some of the problems and some of the solutions based on the experience of the Strasenburgh Planetarium. The present article may prove of value by presenting the somewhat parallel experience of another major planetarium.

Experience at the Vanderbilt Planetarium indicates that programs for the deaf may vary little in content and format from the regular programs. Even the musical background is retained. This latter aids the lecturer and technicians as well as those members of the audience who retain some hearing ability. An interesting point in this regard is that even those considered totally deaf can sense the lower frequencies. If the music is to be changed for the deaf program, or if a special program is being designed for them, this is a point worth considering.

The chief point of divergence between regular shows and programs for the deaf involves use of word slides for the latter. Each slide contains a single word or, at most, a small phrase. This technique enables one to project slides with relatively large lettering that can be quickly interpreted. Word slides enable the audience to understand the visual presentations more fully without giving them a lecture by projection. To have them spend more than a modicum of time reading would detract from the continuity and effectiveness of the presentation.

The word slides help further by preparing the audience for what is about to happen. For example, if a trip to the moon is in the offing, one cannot prepare this audience by narration or by quickening the pace of the music. To simply set the sky in rapid motion without explanation might be unsettling. Instead, a slide is projected with the single word TO on it. After several seconds the slide changes to THE MOON. The audience is now anticipating something, and when the sky begins to move and the moon appears growing larger and larger, they can appreciate the meaning of the effects. This technique of building a sentence by small increments adds to the suspense and gives versatility.

Care is needed in using word slides as labels. The rule here is to start at such a basic level that there is no room for ambiguity. Start with something the audience is likely to be familiar with already. One might start with the BIG DIPPER, moving the green arrow back and forth from the word slide to the star group. After this proceed to the less familiar. Don't start with CASSIOPEIA and have the less knowledgeable members of the audience wondering whether Cassiopeia is a group of stars, a section of the dome, or the name of a green arrow.

When there are two terms to describe the same phenomena, or when one word slide is to be clarified by another, a useful technique is to flash back and forth from one slide to another. For example, alternately flash ECLIPTIC and PATH OF THE PLANETS, or NORTH STAR and POLARIS. In this way vocabulary may be introduced without impeding the presentation.

The program Exploring the Solar System was a specific presentation successfully performed for a deaf audience. The title was our first word slide. A panorama of the sun was brought up, identified by word slide and a brief verbal description was given. Having the lecturer give much of his usual talk during the presentation does not harm the program and assists in preserving continuity and timing.

The sun panorama was faded out and a mobile representation of the solar system was projected. THE SOLAR SYSTEM word slide was projected and since the effect and the word slide were not adjoining in this case, the green arrow was moved slowly back and forth twice between the word slide and the effect.

The solar system projection faded leaving a normal daytime sky. The green arrow appeared and moved slowly across the dome to the western sky and the sun, then faded from view as a sunset progressed. No word slide was used and the sole point of the green arrow was to inform the audience the only changes occurring were in the western part of the sky so
dure with THE BIG DIPPER, POINTER STARS and POLARIS/THE NORTH STAR, some of the more difficult constellations were introduced.

Following the constellation identification sequence, a space probe appeared among the stars. The word TO appeared for about 15 seconds followed by the words THE PLANETS for another 15 seconds. The probe then appeared to be receding, the sky revolved in simulation of travel through space, and a panorama of the surface of Mercury came up simultaneously with the cessation of motion and the appearance of the word MERCURY. This type of sequence was repeated for each of the naked eye planets in turn. The panoramas were as detailed as possible to lessen the need for word slides. In the future brief data slides may be included, perhaps indicating temperature, presence or lack of atmosphere, and planetary diameter. No more than three items will be used on any one slide.

A RETURN TO EARTH slide was shown after the last planet was visited, and this completed the word slides. The moving stars, the casual appearance of an artificial satellite followed by a view of the earth from space, and sunrise were all self-explanatory.

To recap the salient points
there was no point in scanning the rest of the dome. The sunset, fading twilight and the appearance of the stars needed no interpretation. A display of the Northern Lights appeared, at first without explanation. After a few moments, a slide appeared reading NORTHERN LIGHTS and alternated with one reading AURORA. The green arrow then moved slowly from the slides to the effect, then the arrow and slides faded leaving the effect to be enjoyed for a few more moments.

Next, two word slides were alternated: CONSTELLATIONS and STAR PICTURES. A third slide replaced the first two: THE BIG DIPPER, and the green arrow moved slowly from the slide to the star group and traced out the picture. Note that although the word asterism would have been more precise than star picture, it was decided at this point that simplicity was what was needed. A distinction could be made at a later point. After establishing the proce-

A deaf audience demands that you make full use of visual techniques with a minimum of explanation. Here the Orion Nebula is seen expanding out of the constellation, giving its location without words.

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of a planetarium for the deaf: Deviate only as much as is absolutely necessary from your ordinary program. After all, your viewers are still ordinary people but with an impediment. Make the word slides brief and with large lettering. A lecture by projection would be at least as boring as any other kind of lecture. Use green arrows when necessary to direct attention, i.e. when the audience is not facing the coming action. It is no more necessary for the audience to follow every detail than it is necessary during a standard presentation.

One interesting footnote: a storm sequence was originally planned for the deaf program. Since it depended heavily on the sound track it was decided to delete it. It was run following the program to see what kind of reception it would get. Judging from the comments and mail received, the visual storm effects combined with the low frequency sound of thunder were the hit of the show.

Word slides should be as brief and simple as possible. They must describe the action without impeding it.