



**EXPERTS**—Attending the Western Electronics Show and Conference at Civic Auditorium are, left to right: Dr. James P. Swanson; Dr. Lee Lusterd, rear, of the department of radiology at the University of California, and Albert J. Morris.

## Electronic Science Enters New Areas, Delegates Told

Electronic science, confined in the past to the field of communications, today is penetrating into all areas of technology, one of the Nation's top research engineers told an all-industry luncheon of the Western Electronics Show and Conference yesterday at the Fairmont Hotel.

He is Dr. E. W. Engstrom, executive vice president of the Radio Corporation of America, in charge of research and engineering.

Transformed by a "revolution" in the materials with which it works, he said, electronic science is developing new techniques that will re-shape industry, promote greater prosperity, and increase individual well-being.

### HORIZON WIDENS.

"While obsolescence is overtaking the methods and the means upon which we have built our products and services in the past," he declared, "our horizon is being expanded beyond any limits we may discern today."

The results of all this, Engstrom said, already are becoming evident in the changes wrought by electronics in the factory, office and home.

Yet these ranges, radical as they may appear, give only a "faint indication of the astonishing developments now brought within our reach by recent and continuing scientific discovery in the area of new materials."

### REVOLUTION IN MATERIALS

Describing the revolution in materials as a result of research based on controlled action of electrons in solid

materials as opposed to the vacuum of the electron tube, Engstrom explained:

"Today we have learned how to exercise this control with ever greater precision over the three basic types of electron action, to perform the conducting, insulating and magnetic functions essential to all electronic circuits."

Particularly important, he said, is the progress of research in developing new or improved materials of greater efficiency in controlling the flow of current and creating magnetic fields.

### NEW TECHNIQUES.

The sights of electronics engineers, he said, are fixed "not so much on the improvement of existing system but rather upon the creation of new systems and techniques to perform entirely new tasks."

As an example, he said, it now appears that the bulky picture tube, in which electron gun and phosphor screen are segregated at either end, will "give way in the future to a thin layer of electroluminescent material within which the same functions are performed."

The result, sooner or later, will be mural television—its form that of a thin screen decorating a wall, controlled remotely from a small box beside the viewer elsewhere in the room.

Other examples, he added, are the transistor and electronic memory unit.

The trend, he said, is toward "simplicity and compactness," with advantages for millions of Americans.

The show, held in Civic Auditorium, ended yesterday.