Nonfiction

- The Brethren: Inside the Supreme Court Bob Wodward and Scott Armstrong
- Aunt Erma's Cope Book --- Erma Bombeck
- How to Become Financially Independent in Real Estate -3. Albert L. Lowery
- The Pritikin Program for Diet and Exercise Nathan Pritikin Free to Choose Milton and Rose Friedman On a Clear Day You Can See General Motors J. Patrick 5.
- The Fanny Farmer Cookbook Marian Cunningham with Jeri 7. Laber
- 8.
- Body Shaping for Women Arnold Schwarzenegger Cruel Shoes Steve Martin Elvis, We Love You Tender Dee Presley
- 10.

Fiction

- United Press International 1. The Devil's Alternative Frederick Forsythe
- 2. Smiley's People John Le Carre
- 3. Memories of Another Day Harold Robbins
- 4. Princess Daisy Judith Krantz
- 5. The Dead Zone Stephen King
- 6. Portraits Cynthia Freeman
- 7. The third World War Gen. John Hackett
- The Establishment Howard Fast
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 The Last Enchantment Mary Stewart

Discovery earned Nobel prize Jazz musician says Transistor found by 'chance' planets make music in the solar system

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NEW HAVEN, Conn. — The whirring, whining, ticking, thumping and creaking noises alternately sound like a revving motorcycle or a ghost moving through a haunted house. Willie Ruff says it's the

music of the planets. Ruff, 47, a renowned jazz musi-cian and Yale University professor of music, has recorded the sounds - which were originally calculated 350 years ago by 17th century astronomer Johannes Kepler — and released them under the title "The Harmony of the World." Kepler had theorized that as the

worlds turn through our solar system, their motions and the varying speeds of their orbits gave them an everchanging "continuous song for several voices to be perceived by the intellect, not the ear."

the intellect, not the ear." With the aid of his neighbor, geol-ogy professor and pianist John Rodgers, Ruff worked more than two years to construct Kepler's model geometrically and make the sounds available for the ear.

He used 20th century technology to follow through on the old calculations, notations and theories.

"We have made real what was before only calculations on paper," Ruff said. "Through the marriage of astronomy and music, we have created an oral planetarium for use as a teaching tool in classrooms, planetariums and museums planetariums and throughout the world."

There's a great cosmic rhythm

out there," he says. The two professors took their calculations to a hybrid computer-synthesizer at Princeton University last winter and by inserting formu-lae of each planet's size, shape and orbit speed into the computer, they were able to produce a tape repre-senting the sounds of the planets moving through space.

The resulting music of the heavens is a sometimes sweet, sometimes harsh tune.

Earth's sad drone and Saturn's deep growl contrast markedly with Pluto's steady drum beat and Ura-nus's rapid ticky-ticky-ticky. Nep-tune clicks and Jupiter thumps. The song of the solar system, which at actual frequencies would

be far too slow for the human ear to hear, has been speeded up with each five seconds of the recording

each five seconds of the recording representing one Earth year. For only \$10, the sounds of the heavens between the years 1571 and 1835 can resound in any living room, courtesy of the Kepler Re-cording Co. started by the two pro-feesore fessors

'Kepler's old mama would be proud that 350 years later her son has his own label," Ruff says. Ruff says commercial recording companies just weren't interested

in producing the celestial harmony. But the finished product has got-ten attention around the world.

Ruff, in fact, plans to visit China to lecture and play tapes of his record-ings of the sounds of the heavens.

United Press International WALLA WALLA, Wash. — "The only regret I have about the transistor is its use for rock and roll music. I still have my rifle and sometimes when I hear that noise I think I could shoot them all." Walter Brattain, 77, sits in his office at Whitman

College reminiscing about his experiences as a research scientist and the discovery of the transis-tor which brought him a Nobel prize and world acclaim.

He was working at Bell Labs in Murray Hill, N.J., on the historic day in 1947 when he, John Bar-green, and William Shockley made the discovery which led to the development of the transistor.

Brattain says the transistor discovery was by chance, that he was in the right place at the right time

'I was lucky," he said. 'It really started in July of 1947. Bardeen explained why some things we had always assumed were true really were not so, aand I was trying to fully understand the properties of semiconductors.

The day that he and several colleagues watched a tiny piece of treated germanium with two gold contacts attached serve as the amplifier in place of an electron tube in a communications circuit, he knew it was a breakthrough of far-reaching significance

"On the way home that night I told the other riders in our car pool that I had probably taken part in the

largest experience I would ever have." Nine years later, on December 10, 1956, in Stockholm's Concert Hall, Swedish King Gustav IV awarded the Nobel Prize for Physics to Brattain.

Sharing the prize were Bardeen and Shockley. A model of that first transistor sits under a small

plastic dome in Brattain's office. "Before medicine got into using the transistor for so many wonderful things, I think the best use of it was the transistor radio," he said. "Anyone in the world could listen — nomads in Iran, people in the Indies, people living under dictatorships could lis-ten to news from the U.S. and really know what was happening

In 1967, after more than 37 years with Bell Labs, Brattain retired.

Brattain's mailbox is usually bulging. Autograph collectors, students, research and admirers write from all over the world. There's a letter from behind the large guide written in Commence letter from behind the Iron curtain written in German, letters from Sweden, and numerous others.

"It's very time consuming," Brattain said, "and a lot of them don't even send return postage." Brattain props one leg on the edge of his desk and looks out of the window to the center of the

campus where students are hurrying to class. "I guess the best way to sum it all up is to say that to be able to spend one's life and earn one's living as a research scientist is a privilege and I'm grateful to have had the opportunity.





Records-

- 14. I Wanna Be Your . . . — Prir Coward — Kenny Rogers Deja Vu — Dionne Warwick Prince
- 16.
- 17. 18.
- 19.
- Crazy Little Thing Queen September Morn Neil Diamond An American Dream Dirt Band When I Wanted Barry Manilow 20.