RADIO PROGRAMS—THURSDAY

Programs listed below are received from the radio stations and the Mail Tribune assumes no responsibility except to make changes as are supplied.

KYJC 1230 kc	KMED 1440 kc	KWIN 580 kc	KBOY AM 730 kc	KBOY FM 95.3 mc	KDOV 1300 kc	KRVC 1339 kc
4:00—CBS News 4:15—Pat McCoy 4:30—Sidelights 4:45—Sports-McCoy	Local News Road Show Alex Drier Emphasis	News Shopper Newslines Weather	Headlines Swing Thing News, Swing Sign off	Weather Swing Thing News Swing Thing	News Bill Lively News Sign Off	Childrens Hr. Childrens Hr. News Sign Off
5:00—Lowell Thomas 5:15—Pat McCoy 5:30—news-McCoy 5:45—Sports-McCoy	News-Harvey Nightingale News Hank Weaver	News Sports News Newslines Weather		Weather Editorial Sports Swing Thing		
6:00—CBS News 6:15—Music 6:30—Johnnie Linn 6:45—Johnnie Linn	News-Sports Emphasis M. Beatty Edw. Morgan	News Sports Newslines Weather		Weather Cousin News Cousin Ty		
7:00—CBS News 7:15—Johnnie Linn 7:30—Observations 7:45—World Sports	News, Voices Xmas Voices Dinner Music Dinner Music	News Sport News Newslines Weather		Weather Cousin Ty News Uncle Rick		
8:00—World Tonight 8:15—Music 8:30—News-Music 8:45—Sports-Music	Land of Music Land of Music Land of Music Land of Music	News Sports Newslines Weather		Editorial Relaxation Concert Concert		
9:00—CBS News 9:15—Music 9:30—News-Music 9:45—Sports-Music	News, Xmas Armed Forces Xmas Music Music	News Sport News Newslines Weather		Concert Concert Jazz Scene Jazz Scene		
10:00—News 10:15—Music 10:30—News-music 10:45—Sports-music	News-Rutgers Rutgers Choir Nightbeat Nightbeat	Devotion Sign Off		News-Jazz Jazz Scene Anything Anything		
11:00—Sign Off 11:15— 11:30— 11:45—	Good News Nightbeat Nightbeat Nightbeat			Anything Anything Late Show Late Show		
12:00—	Sign Off			Until 2 a.m.		

RADIO PROGRAMS—FRIDAY

5:00— 5:15— 5:30— 5:45—	Sign On	Sign on News Farm News Farm News Newslines			Sign On Waking Crew News Lively One	
6:00—CBS News 6:15—Montie Morris 6:30—Johnnie Linn 6:45—Johnnie Linn	News Wake Up Wake Up First News	Weather News Newslines Weather		Sign on, Wx. Uncle Rick News Weather	News Lively One News Farm Report	News Daily Bread Music Weather
7:00—CBS News 7:15—Johnnie Linn 7:30—Observations 7:45—World Wide Spo	Hemingway Weather R V Report Weather	News Sports News Newslines Weather	Sign on, Wx. Editorial News Sports	Sports Editorial News,	Bill Stamps Bill Stamps News News, Sports	Music News Christ Music 20th C.R. Hr.
8:00—MHS Bsktbl. 8:15—MHS Bsktbl. 8:30—MHS Bsktbl. 8:45—MHS Bsktbl.	Local News Nightingale ABC News Emphasis	News H Peck News Newslines Weather	Hdlines., Wx. Editorial Stocks. News Job Bulletin	Hdlines, Wx Editorial News-Mkt. Job Bulletin	Bill Stamps Bill Stamps News Bill Stamps	20th C. R. Hr. Old Hymns Bible Inst. Bible Inst.
9:00—MHS Bsktbl. 9:15—MHS Bsktbl. 9:30—News 9:45—Sports	Brkfst. Club Brkfst. Club Brkfst. Club Brkfst. Club	News Shopper Newslines Weather	Hdlines., Wx. Job Bulletin News Sports	Hdlines, Wx Job Bulletin News Sports	Sound Off Sound Off Sound Off Sound Off	Deliverance Deliverance Back to Bible Back to Bible
10:00—News-Godfrey 10:15—Arthur Godfrey 10:30—Arthur Godfrey 10:45—Arthur Godfrey	Local News Listen ABC News Emphasis	News Com. News Newslines Weather	Hdlines., Wx Bargains News Uncle Rich	Hdlines, Wx Bargains News Uncle Rick	Bill Stamps Bill Stamps News Bill Stamps	Joy of Living Music Bargain Bell Music
11:00—CBS News 11:15—Linkletter 11:30—Garry Moore 11:45—Sports—Morris	Local News Tello Test ABC News Emphasis	Table Rock Roundup Newslines Weather	Hdlines., Wx Uncle Rick News Uncle Rick	Hdlines, Wx Uncle Rick News Uncle Rick	News Bill Stamps News Bill Stamps	Church News Music Headlines Christ. Music
12:00—CBS News 12:15—Montie Morris 12:30—One Woman's 12:45—Weather—Morri	Reg. News Mkts., Sports RV Report Paul Harvey	News Sports Pacific Power Mkt. Report	Sports Farm Mkt. Stock Mkt. Cronkite	Sports Farm Mkt. Stock Mkt. Cronkite	Noon News Bill Lively Trader Horn Mkt. News	News Pastor Goins Music Music
1:00—CBS News 1:15—Montie Morris 1:30—Woman's World 1:45—Sports—Morris	Local News Hear ABC News Emphasis	Ladies Fair Com News Chng. World Weather	Hdlines., Wx Bohlsen News Cronkite	Weather Bohlsen News Cronkite	News Bill Lively News Bill Lively	Gospel Music Gospel Music Request Pgm. Request Pgm.
2:00—CBS News 2:15—Montie Morris 2:30—Woman's World 2:45—Sports—McCoy	Local News Hear ABC News Emphasis	News Sports Newslines Weather	Hdlines, Wx Bargains News Cronkite	Weather Bargains News Cronkite	News Bill Lively News Bill Lively	Your Request Your Request Music Quiet Time
3:00—CBS News 3:15—Pat McCoy 3:30—Woman's World 3:45—Sports—McCoy	Local News Hear Show ABC News Emphasis	News Sports Newslines Weather	Hdlines., Wx Editorial News, Swing Spts, Swing	Weather Editorial News Swing Thing	News Bill Lively News Bill Lively	Christ Classic Bit of Heaven Music Christians
4:00—CBS News 4:15—Pat McCoy 4:30—Sidelights 4:45—Sports—McCoy	Local News Road Show Alex Drier Emphasis	World News Shopper Newslines Weather	Hdlines, Wx Swing Thing News-Swing Sign off	Weather Swing Thing News Swing Thing	News Bill Lively News Sign Off	Childrens Hr. Childrens Hr. News Sign Off
5:00—Lowell Thomas 5:15—Pat McCoy 5:30—News—McCoy 5:45—Sports—McCoy	News, Harvey Nightingale Headlines Hank Weaver	News Sports Newslines Weather		Weather Editorial Sports Swing Thing		
6:00—CBS News 6:15—Music 6:30—Johnnie Linn 6:45—Johnnie Linn	News-Sports Emphasis World News Edw. Morgan	News Sports Newslines Weather		Weather Cousin Ty News Cousin Ty		
7:00—CBS News 7:15—Johnnie Linn 7:30—Observations 7:45—World Sports	News, Voices Xmas Voices Music Music	News Sports Newslines Crater Bball		Weather Cousin Ty News Relaxation		
8:00—MHS Bsktball 8:15—HMS Bsktball 8:30—MHS Bsktball 8:45—HMS Bsktball	Warmup MHS Bsktball MHS Bsktball MHS Bsktball	Crater Bball Crater Bball Crater Bball Crater Bball		Editorial Relaxation Concert Concert		
9:00—MHS Bsktball 9:15—MHS Bkstball 9:30—News 9:45—Sports	MHS Bsktball MHS Bsktball Nitebeat Nitebeat	Crater Bball Crater Bball Crater Bball Sign Off		Concert Concert Jazz Scene Jazz Scene		
10:00—News 10:15—Music 10:30—News-music 10:45—Sports-music	Armed Forces Armed Forces Radio City Radio City			News Jazz Scene Anything Anything		
11:00—Sign off 11:15— 11:30— 11:45—	Good News Colo. Choir Colo. Choir Nightbeat			Anything Anything Late Show Late Show		
12:00—	Sign Off			Until 2 a.m.		

KSHA
860 KC
Sign on at 7:30 a.m., sign off at 4:45 p.m. Quality music programs all day with news and weather every hour on the half-hour.

TELEVISION PROGRAMS

The following TV broadcast log is printed as a free public service for the Mail Tribune's readers and TV viewers. Schedule changes are printed as provided by the TV stations and the Mail Tribune cannot accept responsibility for errors or omissions.

KBES-TV (Channel 5)

THURSDAY
4:00—Johnnie Linn
4:30—Uncle Bill's Adventure
5:30—Roy Rogers
6:00—Your TV Weatherman
6:05—Channel 5 Report
6:15—Walter Cronkite News
6:30—Sports Roundup
7:00—Rifleman
7:30—Mr. Ed
8:00—Perry Mason
9:00—The Nurses
10:00—McHale's Navy
10:30—M Squad
11:00—ABC News Final
11:10—Top Star Bowling
12:10—Sign Off

FRIDAY
8:00—Captain Kangaroo
9:00—Calendar
9:30—I Love Lucy
10:00—Real McCoys
10:30—Pete and Gladys
11:00—Love of Life
11:25—CBS News
11:30—Search for Tomorrow
11:45—Guding Light
12:00—College of The Air
12:30—As the World Turns
1:00—Password
1:30—Houseparty
2:00—Jane Wyman
2:30—To Tell The Truth
2:54—CBS News
3:00—Secret Storm
3:30—Edge of Night
4:00—Johnnie Linn
4:30—Uncle Bill's Adventure
5:25—Big Y
5:30—Huckleberry Hound
6:00—Your TV Weatherman
6:05—Channel 5 Report
6:15—Walter Cronkite News
6:30—I'm Dickens—He's Fenster
7:00—Leave it to Beaver
7:30—Rawhide
8:30—Route 66
9:30—Loretta Young
10:00—Alfred Hitchcock
11:00—ABC News Final
11:10—Local News Final
11:15—"Miracle on 34th Street"
12:45—Sign Off

KMED-TV (Channel 10)

Thursday
4:00—Focal Point
4:30—Santa Claus
5:00—Fury
5:30—Laurel and Hardy
5:55—Weather Window
6:00—Newsreel 10
6:10—Hanlin Sports
6:15—Huntley-Brinkley News
6:30—Feature Profile
6:35—Touchdown 62
7:00—Feast of Lights
7:30—Wide Country
8:30—Dr. Kildare
9:30—Hazel (c)
10:00—Andy Williams (c)
11:00—News
11:15—Tonight Show—Johnny Carson (c)
1:00—News, Weather, Sign Off

Friday
9:25—Sign On
9:25—Morning Visit
9:30—Continental Classroom
10:00—The Price Is Right (c)
10:30—Concentration
11:00—Your First Impression (c)
11:30—Truth or Consequences
12:00—Merv Griffin (c)
1:00—Loretta Young
1:30—Young Dr. Malone
2:00—Make Room for Daddy
2:30—Here's Hollywood
3:00—Queen For A Day
3:30—Who Do You Trust?
4:00—Focal Point
4:30—Santa Claus
4:30—International Showtime
5:55—Weather Window
6:00—Newsreel 10
6:15—Huntley-Brinkley News
6:30—4 Kings of Music
6:45—Winter Survival
7:00—Close Up
7:30—Gallant Men
8:30—Mitch Miller (c)
9:30—Don't Call Me Charlie
10:00—Fred Astaire Premiere
11:00—News 10
11:15—Tonight Show——Johnny Carson (c)
1:00—News, Weather, Sign Off

KOTI-TV (Channel 2)

4:00—American Bandstand
4:30—Discovery '62
4:54—American Newsstand
5:00—Uncle Bill
5:30—Bullwinkle
6:00—TV Weatherman
6:05—Farm Market
6:10—Stock Market
6:15—ABC Evening Report
6:30—News Summary
6:45—Scotties' Sports
7:00—Deputy
7:30—Ozzie & Harriet
8:00—Stony Of
8:30—Leave it to Beaver
9:00—My Three Sons
9:30—McHale's Navy
10:00—Premiere
11:00—ABC News Final
11:15—Top Star Bowling

FRIDAY
10:00—College of the Air
10:30—Queen for a Day
11:00—Jane Wyman
11:30—Yours for a Song
12:00—Tennessee Ernie Ford
12:30—As the World Turns
1:00—Father Knows Best
1:30—House Party
2:00—Day in Court
2:30—Seven Keys
3:00—Secret Storm
3:30—Edge of Night
4:00—American Bandstand
4:30—Discovery '62
4:54—American Newsstand
5:00—Ore Cal Panorama
5:30—Huckleberry Hound
6:00—TV Weatherman
6:05—Farm Market
6:10—Stock Market
6:15—ABC Evening Report
6:30—News Summary
6:45—Scotties' Sports
7:00—Mr. Smith Goes to Washington
7:30—Gallant Men
8:30—Flintstones
9:00—I'm Dickens—He's Fenster
9:30—77 Sunset Strip
10:30—Lloyd Bridges
11:00—ABC Final Report
11:15—Showtime on "2"

Effects of Gravity on Batteries Under Study

Corvallis — A study aimed at finding additional information on the effects of gravity on behavior of batteries has been started by an Oregon State university chemical engineer with a $12,000 grant from the National Science Foundation.

Instead of a space craft, Dr. Robert Meredith will use a high-speed centrifuge to simulate the tremendous gravity forces that battery-carrying missiles or space craft encounter.

The gravity forces can affect the energy output of batteries used to send information back to earth or to operate the missiles, Meredith explained.

How batteries are affected in upper altitudes, where gravity effects are reduced, will be studied also in the OSU engineering laboratories.

Batteries used in space craft are special high energy batteries, Meredith noted. His new study will emphasize the basic electrochemistry involved in such batteries.

Performance of some batteries in space flights to date has been somewhat different than had been anticipated, the OSU engineer added. He has been a consultant for three years to the National Space and Aeronautics Administration.

Fur Good Trimming For Suits, Dresses During Winter Season

Burlington, Vt.—(UPI)—If you have small pieces of fur tucked away in storage, you can use them for fur trimmings for coats, suits and dresses.

"Designers are using fur on everything this season," says Mrs. Lois Soule, Vermont Extension clothing specialist.

Simply inspect the fur, cut out badly worn sections and check the fur against the pattern you plan to use.

OFFER QUICK SERVICE

Bath, England —(UPI)— Notice in a local jewelry shop: "Ears pierced whilst you wait."

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Gyroscope, Device Stabilize Monorail

By JOSEPH H. CARTER
United Press International

Kansas City, Kan.—(UPI)— The sleek machine, mounted on two wheels atop a single rail, moved backwards and forwards in perfect balance. Louis E. Swinney beamed like a proud father.

"Think of Kitty Hawk," the practical engineer said. "The Wright brothers' plane didn't look like a jet."

Swinney, 33, is the designer of what he calls "the first gyroscopically stabilized monorail ever built in the United States.

The machine has 19 distinctive features. Swinney has applied for that many patents. His model is 21 feet long, weighs 4,000 pounds and runs atop a three-inch, concrete filled pipe. Other monorails hang beneath their rail.

A gyroscope and an unusual pendulum device combine to keep the vehicle balanced on the rail, combatting unbalanced loads, curves or jerky side movements by passengers.

The designer said that because his model sits on top of the rail, instead of being mounted under it, cost of constructing the track would be about $1 million a mile, compared with an estimated $3 million a mile to build the rail for the World Fair in Seattle.

Perfected, Swinney said his two-wheeler would zip safely at speeds up to 250 miles an hour. Because his prototype, which he tests here, is all handmade and has imperfections it never exceeds 10 miles an hour.

"It has proved the theory," he said "It takes time and money for refinements."

He, his brother Ernest Swinney and Harry Ferreira have done most of the work on the machine. They figure it took $10,000 in materials and $30,000 in labor to get the test model on its rail.

It was a snowy day last winter when they tested it, but they remained quiet while they searched for "bugs."

They most carefully watched the 800-pound gyroscope, mounted behind the driver's seat, and its pendulum or gimbal perform. A converted automobile engine powers both the gyroscope and the drive wheels.

Even with its shortcomings, caused mostly by lack of money for better goods, the gyroscope continues spinning for 45 minutes after the engine stops and keeps the car balanced on the rail that long. Better made parts would keep balance for several hours, Swinney said.

Swinney, who quit high school as a junior but kept studying, became interested in developing a two-wheel automobile. He read avidly and changed his course toward the monorail and rapid transit systems.

He hopes to sell his system to a city, then with profits work on his car.

"Washington, D. C., alone has authorized $2.5 billion to be used for a rapid transit system," he said, "My invention should be considered."

He cited other cities, including a recent proposal in Los Angeles, where monorails and his car would work, he said.

MOO-O-OS and MUSINGS

If you're worrying about what's going to happen to the sidewalks when they widen Main street 20 feet, don't give it another thought.

They're just widening the middle of the street.

Little Daisy

Sanders

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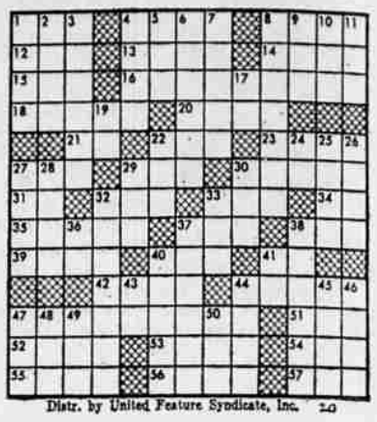
Strange As It Seems By ELSIE HIX

CROSSWORD PUZZLE

Answer to Yesterday's Puzzle

ACROSS
1-Observed
4-To banter
8-To be at ease
12-Time gone by
13-Two-toed sloth
14-Great Lake
15-To ventilate
16-To finish
18-Rosters
20-Related
21-To perform
22-The heart
24-Greenland settlement
27-Dance step
29-Armed conflict
30-To delineate
31-Conjunction
32-To establish
33-Existed
34-Babylonian deity
35-Boundary
37-Metal
38-Skill
39-To redact
40-Gear
41-Indefinite article
42-Mountains in Europe
44-Ammonia compound
47-Sleeves
51-Males
52-Tense
53-God of love
54-Emmet
55-On the sheltered side
56-Slave
57-Caustic substance

DOWN
1-German river
2-Exchange premium
3-Spheres
4-Projections
5-Unit
6-Tailor
7-Mood
8-Requites
9-Period of time
10-To occupy chair
11-Golf mound
17-Prefix: not
19-Behold!
22-Household pet
24-Symbol for tantalum
25-Genus of maples
26-Warmth
27-European
28-Dry
29-Damp
30-Sunburn
32-To locate
33-Toupee
36-Note of scale
37-Bookkeepers
38-Beast
40-Hindu queen
41-Part of "to be"
42-Japanese measure
44-The cacma
45-To refute
46-Heraldry: grafted
47-Music: as written
48-Hindu cymbals
49-To regret
50-Man's nickname



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