Beckman Elected to Head Caltech Board of Trustees

Dr. Arnold O. Beckman was elected Chairman of the Caltech Board of Trustees at the meeting of the Board last Monday. Dr. Beckman succeeds the late Robert L. Millikan, who died last summer after serving as Chairman for two years. John O'Melveny has been the interim Chairman, and will continue as such until January first, when Dr. Beckman will take office.

Commenting on the election of Dr. Beckman, Dr. Dallmeyer said: "Dr. Beckman is uniquely qualified to be Chairman of the Board of Trustees. His interest in Caltech has never lagged since he arrived here as a graduate student in 1926. He has served devotedly as a trustee and we all look forward to further progress of the Institute under his leadership."

Dr. Beckman received his B.S. in Chemistry in 1928, and served as a faculty member until 1946. In 1953, he was elected to the Board of Trustees, the first alumnus to become a member of the Board.

Leader Of America

BY MICHAEL ROBEL

BY STUART GALLEY

BY STUART GALLEY

Helstein Discusses Automation

BY MICHAEL ROBEL

The team of sophomores Fred Shultz and freshman Michael Robel received an over-all rating of excellent in debate at the Western States Alternate Tournament. The team discussed the question: "Is it necessary to have a displaced employee retrained?"

The handsome three-floor William H. Booth Computing Center and Garage is a model of elegance. The 300 million dollar project, the largest such project undertaken in the U.S., was the part of the University's $19.5 million fund drive to raise money for new buildings and faculty salaries. More recently, he and Mrs. Beckman donated over $1 million for construction of the new Beckman Auditorium, soon to be dedicated.

Dr. Beckman is founder and president of Beckman Instruments, Inc., which manufactures a wide variety of scientific instruments. He is currently a director of Security First National Bank, the Southern California Edison Company, and Continental Airlines. He is also chairman of the executive committee and vice chairman of the board of trustees of System Development Corporation.

Tech Debaters

Rate Great at Tournament

BY MICHAEL ROBEL

BY STUART GALLEY

Dr. Beckman will take office. Dr. Beckman will be succeeded by Dr. DuBridge, who was elected to the board of trustees by the Board last Monday.

The formal dedication ceremony was held last Wednesday night, November 6, in conjunction with the opening of the Booth. The symposium was held in Dabney and featured talks by Caltech and visiting professors on computers in basic research, education, mathematics, biology, geology and similar topics.

IBM Complex

The heart of the computer core is two IBM complexes, the 7040 and the 7090. Caltech engineers and IBM engineers worked together to join the two so that the 7090 monitors input and output and other trivial chores, leaving the 7090 free to do more complex high-speed calculations.

Communications to this "heart" of the computer core are handled by an IBM 7290 multiplexer. This device links the 7040-7090 complex to other units on campus, such as the Burroughs 220 and data-gathering units capable of controlling and gathering data from experiments.

Versatile

The system is designed to handle a wide variety of problems simultaneously. Data fed into consoles is relayed to the complex, where it will be reassigned. Some problems might be referred to the Burroughs 220, others might be resolved by the 7090, but complex and difficult problems will be sent to the 7090. Furthermore, the 7090 will continue to store the information concerning the problem being worked upon, give the 7090 a more pressing problem, and then direct it to resume the original problem.

Simple to Use

Although the computer system is sophisticated, it is simple to use. The system is designed for easy programming and corrects its own mistakes. The system can make short work of data reduction tasks so involved that the human mind cannot cope with them. Thus, according to Dr. McCann, "the new center will make it possible for Caltech to undertake big research programs."

When the complex is operating at full potential it will be available to any of Caltech's 800 research projects. Eventually the system will be linked with Mount Wilson and Palomar and the Caltech Radio Observatory in Owens Valley.

The new building was made possible by gifts from the Booth Ferris Foundation and the National Science Foundation.

What is Solution?

What, then, is the solution? (Continued on page 5)
Helstein, Hangan Featured
In Program of Protest Songs

Folk singer Clabe Hangan per­formed a selection of songs of the American protest movement in Win­nower Lounge last Friday in a combined program with Ralph Helstein. Helstein, labor leader and the Y's Leader of America's labor leader, com­mented on the songs.

Hangan, whose voice emanated from Redlands, is a social psycholo­gist and is active in interracial and integra­tion work. He began the performance with "John Henry," a Negro labor song "out of which a protest against automation in the 1900's. He con­cluded the program with the song Joe Hill, a labor leader who was executed in the 1930's for a controversial murder. "Preacher's Song," written by Joe Hill, was performed by the workingman that he could achieve a better life by joining a union. Hangan recited the "Talking Union Speech," a de­vice used by union organizers to increase and hold union mem­bership. He sang "Which Side Are You On?" which was written by a wife of a Harlin County, Kentucky, miner, during a bloody union fight.

Helstein reviewed the history of protest songs, stating that such songs are probably older than recorded history and have preceded to the labor songs and now the freedom songs of today. He recounted how the labor movement had to fight manage­ment and membership apathy in order to achieve. Hangan concluded the program by singing labor songs which have been transformed into freedom deeds such as "We Shall Not Be Moved" and "We Shall Overcome."

Well, the Ash Grove has finally been closed itself, and for the time being at least. Their latest at­traction was a folk singer who had a mandolin, Doe Watson, and a gray-sung string band barded by Bill Monroe, and is really worth­while. Life was the guitar player's face — he was like a short, emaciated Elvis Presley — which quite openly displayed whatever emotions were running through his head. When little Miss Julie (or something like that) came out to sing, those facial expressions became rather interesting.

She wasn't really so little, and had an unusual way of thrusting out her bust. The old man, Bill Monroe, was a real tiger on the mandolin — that is, if one can be a tiger on such a small instru­ment; perhaps he was more of an owl.

A Band? Any of you who have read "No Time for Sergeants" will know what I'm talking about. When he first came out he had one of those big metal capes which he referred to as a "pig yoke"; later, when he came back with one of the more modern elastic ones, he pointed it out saying, "this one has a party on it, by nuthin'!" A statement which makes one immediately wonder about a nuthin', but I guess that isn't too important.

Hearing Band and Strings Elvis The other part of the bill is a whole bunch of people with a fiddle, a banjo, a bass, a guitar, etc. I'm no connoisseur of string bands, but this one was very entertaining. Especially intrigu­ing was the guitar player's face — he was like a short, emaciated Elvis Presley — which quite openly displayed whatever emotions were running through his head. When little Miss Julie (or something like that) came out to sing, those facial expressions became rather interesting.

There were washed-out bearded guys standing around looking "with-it"; there were also some washing-up, stringy-haired girls sitting around looking "with-it." There were even some aging dispenser salespeople (dd), wonder­ing if maintaining their appear­ance was worth being left out. A few of the more fortunate had achieved the sealant of "with-ness" by sitting there and strumming and singing the whole worthless, money grub­bing, bourgeois world could see what they thought of them. It all's a good show and for those of you who have the time in the next two weeks, is well worth going to see.

By
Steve Gorman

FRENCH SPANISH RUSSIAN ITALIAN JAPANESE

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THE MIGAASS

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Beavers Bash; Bruins Twice; Lose Anyway

The hard-kicking varsity and JV soccer teams each dropped games to UCLA, 3-1 and 3-4, respectively, on Saturday. The UCLA JV's locked classey up scored two quick goals in the first 10 minutes of play. The first of those came on a blufing but impressive shot from 20 yards out.

After the initial shock wore off, the Tech defense stiffened and began to put the foot to the UCLA offensive threat. The referee noticed this, and Tech was penalized several times for roughness. J uto was added to incoming. However, when a nameless Tech backfield hero, and second half, all and absorbing a hard kicked ball in — yes, that very tender spot, was unjustly penalized for "hands."

Despite outplaying the UCLA varsity in the first half, the Tech varsity managed only a 1-1 haltime. When the Tech scored on a shot by Dave Clough while Jerry Schwartz held the Bruin goalie away from the play, UCLA tied the score, though, just at the end of the half.

The game opened up in the second half as both teams had numerous scoring opportunities. The Bruins scored twice to clinch the league championship for them. The game was not without its lively moments, though. When Tech goalie Don Wilberg was warned by Coach

(Continued on page 4)

Touton, Johnson Lead Swimmers

Ruddock led in the Intehouse Swimming preliminaries as his 26 qualifying total qualified 11 men in five individual events. Close-

ly following were Fleming and Pickles with 10 and 9, Bliker and Dabney qualified six apiece, and Lloyd and Page trailed with 3 each.

Expert analysis of the probable swimmers shows Fleming the best bet to take the meet, with Ruddock only two points behind. This analysis does not include diving, relays, or the individual medley, in which no Tech qualified.

Outstanding performances were turned in by Dick Touton and Bruce Johnson of Dabney and Bruce Johnson of tech. This analysis does not include diving, relays, or the individual medley, in which Tech qualified six apiece, and Lloyd and Page trailed with 3 each.

Fleming's final score came in the final seconds. It began September 21 in Florida, when a team of four 1964 Comets, specially equipped and prepared for high-speed driving, set out to do the equivalent of four earth-orbits at Daytona International Speedway—100,000 miles at speeds well over 100 miles on hour, round the clock for 40 days, through weather fair and foul.

They did it, all four of them, and they made history! They did it in the full glare of publicity. In semi-tropical heat. In the teeth of torrential squalls that fringed two hurricanes. Including time out for refueling and maintenance, the lead cor averaged over 108 miles on hour, nearly 20 miles on hour, topping over 100 national and world records!

For all practical purposes this was an engineering trial —the most grueling test of staying power and durability ever demanded of a new car. Only near perfection could stand the punishment dished out to parts and components hour after hour, mile after mile. Brakes, engines, transmissions, ignition systems—every single part a pawn in a grim game of truth or consequence, with total product quality the stake. And they all came through hands down!

Hoopers Take Thriller 83-82

Caltech staged a spectacular second half rally, Tuesday, to beat Pacific Christian College in the final seconds, 82-78. Caltech kept close in the first half until the final minute when PCC applied full court press and scored six points to carry a 43-33 lead into the locker room. Caltech came out fighting and finally tied the score with six minutes left. The lead then see-

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Now that it's over and in the record books, what does it mean? New proof of Ford-built stamina and durability! New evidence that Ford-built means better built! Yes—and more, it is a direct reflection of the confidence and creative know-how, the spirit and spark of Ford Motor Company's engineering, styling and manufac-
turing team—men who find rewarding adventure in technical breakthroughs.

More proof of the exciting things that happen at Ford Motor Company to bring brighter ideas and better-built cars to the American Road. Ford's engineering leadership powers you better-built cars
Matmen Tie San Fernando In First Meet

The Caltech Wrestling team tied its opening match with San Fernando Valley, 20-20. Each team forfeited a bout due to a lack of men in all weight classes. The six other bouts ended in pins.

Caltech forfeited the 132 lb. weight class. Wrestling at 138 lbs., Dick McGehee stacked his opponent up for a pin in the first period. Frank Fujimura wrestled Valley's captain, and was pinned in the third period. Dave Paulsonen, 147 lbs., and Walt Putulents, 167 lbs., were both pinned in the second period.

The proliferation of pins was accountable to a new rule which awards a pin when the shoulders touch the mat for only one second instead of the three formerly required. The Caltech team needs more conditioning, but has enough talent to make the season outlook hopeful.

Frosh Foul Out At Riverside Tilt

Foul trouble plagued the frosh hooper as they slipped to an 89-56 defeat at the hand of Riverside. Fresh from a victory over Rio Honda, the frosh traveled to Riverside on Friday.

Caltech kept close early in the first period, chiefly on the shooting of Herb Jubin and Gray Jennings. Later in the period, a full court press by Riverside stifled the Caltech offense as lavender controlled 27-21 at the quarter. Foul trouble forced the Techmen to pull several starters early in the second period. Riverside took advantages of this and carried a 49-35 halftime lead to the locker room.

The second half was merely more of the same. Riverside took the game out of reach toward the end of the third period and went on to win the game 89-56. The loss was especially hard on the frosh as Jubin was forced to leave the game early in the third period with a turned ankle.

Despite the loss, the junior hooper showed a balanced attack. Xii Hol led Caltech scorers with 11 points, followed by Jennings and Dave Goodmanson with 10, and Jubin with nine.

Bruins Bashed

(Continued from page 3)

Andrews to beware of charging forward. UCLA forward, he replied, "I'll just bring up my knees next time."

"No, no," retorted Andrews, "a penalty against our goalie would be disastrous. Use your elbows."

Center halfback Dick Wade was viciously attacked by a UCLA forward at one point in the game. Catching this same man off his guard a little later in the game, Wade attempted to apply the old one-two, but the UCLA's landed out of bounds on the first bounce and was out of play.

The soccer team meets Pomona in a replay of a game postponed last week. The game will be played at Pomona, Tuesday night.

The Bell Telephone Companies

Brad Zuver (B.A., 1957) has converted his economics educational background to the exacting details of accounting through the use of data processing equipment. It's just business economics according to Brad, but the opportunity to function as a data processing expert has opened a whole new future for him.

Besides the intensive training he received on business machines, he has been given a free hand to suggest new data processing procedures. His creativity and initiative paid off. It wasn't long before Brad was promoted to a sec-