

Editorial

U.S. Security Demands Autonomous Science Arm

Events of the past few months have shown that the age has come when the military or governmental administrator who lacks a thorough scientific education is no longer competent to administer a military research and development program.

The recent Vanguard *faux pas* is a graphic example of what happens when a scientific development program is controlled and publicized by men unfamiliar with modern technology. The nation's lagging tripartite missile program is another example.

The American scientific and engineering community has suffered a tremendous embarrassment at the hands of the government and the press. Further, the entire history of the missile development program is one of wasted talent, duplication, and red tape. How can the nation hope for rapid development when it so hampers the efforts of American technology to provide modern defense weapons?

A Burning Need

The acknowledged gross mishandling of this country's missile program, coupled with the inexcusable embarrassment of the well-publicized Vanguard failure, points up the burning need for scientific research and development to be directed and controlled, even at the very top, by men of science, not by scientifically uneducated politicians or military men. The President himself realizes that he is not competent to judge on matters of a scientific nature; how then can we hope for more from lesser officials in the Pentagon?

In the field of rocketry, as never before, the development problems are so complex and varied as to defy the understanding of the nonscientific layman. While this is perhaps a blow to the pride of the military administrator, it must be realized that this is a situation which will become a matter of course as military technology becomes even more advanced.

A Scientific Weapons Division

The result is clear: America's military research and development must be run exclusively by men of sufficient scientific background to be able to appreciate the problems and

(Continued on page 2)



Techmen?



Well, . . .



they're interesting
ASCIT Photos

The Fair Sec's

Sally Shaw Decorates Rose Parade

by Howard Weisberg

It had to happen. After years of proximity to PCC, after being right across from the former scene of the Rose Bowl games, CALTECH IS IN THE ROSE PARADE.

Well, almost.

It seems that Sally Shaw, a secretary in the Graduate Office, is one of the seven 1958 Rose Princesses. She works afternoons in the Graduate Office and is a PCC freshman in the morning, when she learns more about how to be a secretary.

Sally Shaw is a nineteen-year-old green-eyed blonde, and a native of Pasadena. She is five feet five inches tall, which makes her the tallest Rose Princess this year.

Observing that she is a tanned, healthy-looking girl, and hoping that she would perhaps admit to being a nudist or a girl shot-putter, we coyly asked her if she spent her spare time at tennis, horseback riding and similar outdoor activities.

"Yes," she said.

Keen Competition

An interesting fact is that the Rose Princesses are chosen from an original turn-out of 1700 PCC coeds. (Further questioning disclosed that there are approximately 1700 coed attending PCC.)

The judging is done by local businessmen on an impartial basis. Now that the royal court has been chosen, they are busily taking charm lessons, being fitted for new clothes (which they keep), attending dinners and generally getting ready for the New Year's Day parade.

Christmas Conference Attracts 14 Beavers

Fourteen Techmen are planning to attend the YMCA's Asilomar Conference, December 27 to January 1. The annual conference, which is held near Monterrey, will attract over 300 students from colleges in California, Arizona and Hawaii.

Highlighting the formal part of the program will be eleven seminars. The more popular topics include "Love and Marriage in the Twentieth Century" and "Intellectualism as a Way of Life." Walt Raitt, a member of Caltech's "Y" Board of Directors, will direct a seminar on "War and Peace in the Atomic Age."

Social Program

The social program for the conference will feature a mixer dance — the conference is co-educational — and a beach party. Climax of the affair will be the gala New Year's Eve party. Caltech's Bob Blandford is in charge in the evening programs.

Music Program

One of the features of this year's conference is the new emphasis on music. Several new chorale works have been written for the chapel services. These will be held to provide new interest for the musically inclined delegates.

Reservations for the conference may be made through the Y until the end of next week. Interested parties should make their reservations as soon as possible, since a number of the seminars are nearly full.

SCOREBOARD

CROSS-COUNTRY

Occidental 24, Redlands 63, Caltech 70, Pomona, Whittier for feited.

BASKETBALL

Caltech 60, Cal Western 56, Caltech 61, Cal Baptist 54

SEMINAR SLATED

"Science, Organization and Society" is the title of the humanities seminar to be held at 3 p.m. today in room 208, Dabney. The discussion, the second in a new series of seminars sponsored by the Humanities Division, will feature Dr. Leland H. Jenks and Dr. James C. Davies.

Jenks, a history professor at Wellesley College, is a visiting professor at the Institute this year. His specialties include the history of industrial organization and management.

Davies, associate professor of political science at Tech, handles a sophomore history class and the division's courses in political parties and political behavior.

The series was initiated last month with a discussion between Dr. H. E. Ellersieck and Dr. Peter Fay on the "Relative Importance of Political and Economic Influences in World History."

Trafton Addresses Sports Banquet; Hays, Pitzer, Van Kirk Share Trophy

Twelve Tech athletes have been named to All-Conference teams in fall sports. Announcement of this fact, a fitting climax to the best Beaver season in many years, highlighted the annual Fall Sports Banquet, held last Monday at the Brookside Golf Club.

Larry Berry and Dick Van Kirk were selected for the All-Conference first team in football. On the second string were Don Stocking and Russ Pitzer.

Health Center Completed

The Archibald B. Young Health Center, headquarters for Caltech's health service, has begun full-scale operation. The Center, which was made possible through a memorial donation by Mrs. Archibald B. Young, was opened last week.

New infirmary facilities include two 4-bed wards and two isolation wards. In addition, three treatment rooms, two doctor's offices and a psychiatrist's office will be used by the staff.

Construction on the center, which is valued at over \$200,000, was begun last March. Caltech's Service League has provided much of the equipment and furnishings.

Five All-League

Five soccer players were named to the All-League soccer team. Brian Grey and Hugh Pritchard, exchange fellows from England, and Ed Tums were the graduate students picked. Luis-Baez-Duarte and Larry Tenn, both juniors, were Tech's undergrad contributions. Brent Banta was given honorable mention. Ed Tums received the Most Valuable Player award.

The water polo team had two players selected for the All-League team. Clarke Rees was named to the first string and Dave Tucker made the second string.

Wheaton Trophy

The Wheaton Trophy is annually awarded to the football player exhibiting the greatest "sportsmanship, moral influence and scholarship." This year's honor was shared by three men — Russ Pitzer, Lance Hays, and Dick Van Kirk.

Dr. Harvey Eagleson, toastmaster at the banquet, introduced the speaker for the evening, George Trafton.

After the keynote, Dr. Eagleson introduced the coaches and captains to the audience. Each of the coaches gave a brief summary of the highlights of the season and introduced his team members.

Finals Schedule

Monday, 8 a.m. — AM 15a, 101a, 115a; Bi 114; Ch 27a, 63c, 127a, 163c; Ec 100a; Ge 9, 109; L 32a; Ma 1a, 2a; PM 1, 101; Ph 112a.

Monday, 1 p.m. — Ae 101a, 201a; Bi 116a, 225a; Ch 16, 24a, 41a, 124a, 221a; CE 10a; Ec 2a; EE 15a, 170a; En 1a; Ge 126; Hy 1; Ma 5a, 108a; PM 105; Ph 201a.

Monday, 4:30 p.m. — L 50a.

Tuesday, 8 a.m. — Bi 129, 241; Ch 13a, 113a, 227a; CE 115a; EE 104, 132a, 160a; Ge 171; H 2a; Hy 2a; JP 121a; Ma 112, 115a; ME 15a; Ph 1a, 107a.

Tuesday, 1 p.m. — Ae 204a, AM 116, 125a; Ch 226a, 223a; En 7a; Ge 108; H 1a, 5a; Ph 2a, 203a.

Wednesday, 8 a.m. — Ae 103a; AM 1, 5a, 150a; Bi 106; Ch 1a (or Gr 1), 21a; EE 103a; Ge 1, 4a; Hy 101a, 103a; JP 200a; ME 1, 3; Ph 106a, 131a.

Wednesday, 1 p.m. — Ae 102a, 110a; AM 3; Ch 61, 125; CE 120a; EE 1a, 4a, 140a, 162a, 164a; Gr 1 (or Ch 1a); Ge 105; JP 103a; ME 115a; Ph 129a, 227a.

Thursday, 8 a.m. — Ae 107a; Ec 48, 110; En 8; H 15; Pl 1, 2, 101a; Ph 27a.

Take home: Ma 160a.

The California Tech

Associated Collegiate Press honor rating: First Class

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SCIENCE ARM

(Continued from page 1)

pitfalls of modern engineering. In other words, scientific weapons development must be handled by a unified division, a military ordnance department, independent of the three rival services and run by men of science. If there is a shortage of scientists and engineers, the immediate solution does not lie in education and federal aid, but rather in the sensible use of the manpower we already have.

The present situation of parallel and rival development controlled by the branches of the armed services is more than unsatisfactory. Men trained in politics, civil service, and the military have no more idea how best to maintain scientific progress than does the average man in the street. Just as military men direct the growth and movements of the military, so must scientific and engineering personnel have the last word in the field of research and development.

The steps already taken by the administration, while late, are a move in the right direction. But the situation is yet far from satisfactory. Only when the government realizes the limitations of its ability to direct the nation's defense technology will the scientific community of America be free to attain its acknowledged potential.

LETTERS

Editor, the California Tech:

A group of us feel that, although worthwhile criticisms were expressed in your recent editorial concerning the IHC, your sweeping denunciation of its operation has perpetrated a gross injustice upon a coruscant face of this organization. The reference to Joe Fineman's scholarly but amusing minutes as, "ill-considered, uninformative, and unfunny," evidences a frightening insensitivity. We feel that Joe's almost poetic interpretations convey the personality of the meetings. As for their being unfunny, Robert Penn Warren has written:

"It is perfectly true that poets sometimes are willful and perverse and proud of their learning. But can we, on the other hand, take our own ignorance at any given moment to be the norm of poetry? If we are not willing to make that rather conceited assumption, then it is our responsibility to try to remedy our ignorance."

If you are incapable of appreciating the cosmopolitan atmosphere of Joe's minutes, with their humorous literary illusions and warm, well-aimed pokes at reader and committee member, then perhaps a little introspection and research will reveal an inadequacy in your own backgrounds. Certainly the depreciation of Joe's minutes, whether through direct intent or through carelessly including them as more support for your criticism of the IHC, was unfair and unwarranted.

Maxine Bovowsky
Doug Junge
Michael H. O'Malley
David Turnquist
James E. Vicars

Editorial

Freedom and/or Progress

Russia's vast technical progress during this century is a powerful demonstration of the advantages of totalitarianism. Sputnik is not so much a demonstration of military might as a demonstration of the success of the Russian system; the immediate danger to democracy is not annihilation by hydrogen bombs, but the quiet death of a system that has been tried and found wanting.

Circumstances once again force us to ask the question: "Can freedom and progress co-exist?" Can a democratic system be sufficiently efficient to keep pace with a totalitarian system? Will men serve the best interests of the state without being forced?

During the era of complete capitalism, democracy was believed to be naturally efficient, with an individual's selfish interests being identical with the best interests of the state. The decline of complete capitalism, however, has brought democracy to a position in which its survival depends on the unselfish support of its peoples.

Therefore the present crisis demands that the leaders of our society devote more attention to the problems of the state than they are at present. In particular, the college student of today must prepare to participate in national politics if he expects to maintain his freedom.

For these reasons the California Tech will place an increasing emphasis on current events and basic national problems. The Trevor Gardner interview, the weekly news column and today's front-page editorial are examples of this trend.

The Outside World

FOREIGN

Indonesian Foreign Minister Subaandria stated that there is still room for negotiations with Netherlands over West New Guinea, but that the Dutch would have to make the first move. Meanwhile the Indonesian government has been planning deportation of Dutch nationals, and has been already asked by the Dutch to close their consulates outside of Jakarta. Indonesia has been forced to use its army to prevent employees from taking over Dutch enterprises before such actions were sanctioned. So far the revolt, though widely observed, has been peaceful, but the Dutch are already planning an evacuation, and the Netherlands has called for an emergency NATO session to hear the Hague discuss the issue.

FRANCE

France ordered her banks to turn over 30% of all dollar holdings abroad as a forced to the government loan at 3% interest. These funds will be used to meet present trade deficits or to pay off foreign debts at the end of the year. This financial action should convince potential lenders that France is a better risk than before.

Egypt's arms shipments to Tunisia never materialized. Henry Cabot Lodge has backed the French in the U.N. against an Asian-African demand for a settlement with Algeria, because he felt that since France is making progress a possible solution to her problem should not be hindered.

NEAR EAST

The Arab-Israel dispute over the U.N. Truce Supervising Com-

mission has been successfully mediated by Dag Hammarskjold, Jordan announced that it will maintain the fullest cooperation with the Commission, and Israel said that their supply convoy is not allowed to pass through Jordan.

DOMESTIC

The administration favors a Constitutional amendment giving the cabinet power to decide on a President's fitness if he is unable to do so.

GENERAL

In a briefing session with Congressional leaders the administration expressed desires for two billion dollars more for development of modern war materials, permission to share nuclear secrets with NATO partners, one billion more for a mutual security program, a five year extension on the Reciprocal Trade Agreement Act to cut tariffs 25% and more education and pay for scientists.

LABOR

The AFL-CIO expelled the Teamsters Union from the federation with a vote of 5-1 at the federation's second constitutional convention last week. Both the Teamsters and the federation pledged not to start a civil war and to give the bakery unions a three month reprieve to clean house.

STEVENSON

Adlai Stevenson refused a presidential invitation to attend the NATO conference later this month. He gave as his reason the fact that he will have no real authority or power to make any public disagreements. He also urged a NATO backed guarantee for an Arab-Israeli frontier.

Trouble-free weekender—this wash 'n' wear Arrow

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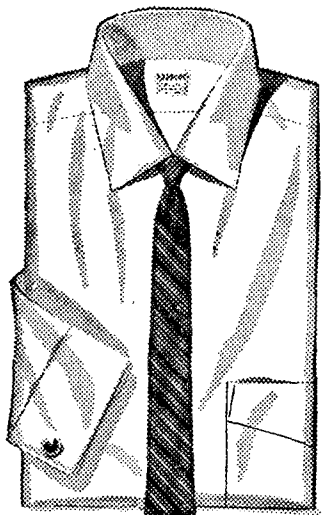


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Patents

Employees Often Forced To Disclose Inventions

By Roland Smoot

This is the fifth in a series of articles about the protection of industrial property.

In the previous articles we have discussed briefly the patent system, its advantages, and the ways of obtaining a patent. We have also indicated that manufacturing concerns use trade secrets to protect their know-how and manufacturing techniques. But any business must be controlled by and deal with people so that what we might call a corporation's industrial security as to its patent matters and trade secrets will be only as good as the enforceable obligations and privileges existing between management and the employees.

No Physical Coercion

In some societies it is possible to prevent an employee from moving from one job to another, and to force the employee to divulge all new ideas or inventions to the employer. Fortunately, in our society this form of physical coercion is not available to an employer, but management has a legal coercion by which employees will be required to keep in confidence all true trade secrets learned during the course of his employment, even if the employee changes jobs. In addition, the employer may require

the assignment by any employee to it of any invention made during the course of employment.

Legal Coercion

This legal coercion is accomplished by means of an employment contract. Every major industrial concern, and the vast majority of other organizations, including Caltech, M.I.T. and the University of California have some form of employment contract dealing with either patents or trade secrets, or both.

A typical contract which each engineer will be required to sign upon entering the employ of organizations such as General Electric, DuPont and R.C.A. requires the employee to promptly disclose to the employer any idea, improvement, or invention patentable or unpatentable made or conceived during the course of his employment.

Trailer Clause

Some companies include a trailer clause whereby the employee is required to assign all inventions made within a period of six months or a year after termination of employment. Such typical contracts further require the employee to hold in confidence all manufacturing techniques, know-how and trade secrets learned during the course of his employment.

The principal difficulty with these employment contracts is that they tend to mortgage the mind of the employee. An engi-

neer's principal saleable commodity is his knowledge. If he is not permitted to use the experience gained in one employment for the benefit of future employers, his market value is decreased. The courts, therefore, scrutinize these employment contracts with a great deal of care to make sure that the terms and limitations placed on the individual engineers are reasonable and only extend necessary protection to the employer.

Effect on You

Now how do these agreements affect you?

Let's say you go to work for General Electric in the Research and Development Department. During the course of your employment you and your fellow workers are working on improved electrical apparatus. Any invention that you make during the course of your employment in the field of electrical apparatus belong, in law, under the terms of your contract, to General Electric.

Now suppose that after hours, on your own time, but using General Electric's equipment and material, you develop a better mouse trap, something completely unrelated to your regular work. There is a good chance, depending on the precise terms of the contract, that this invention too, will belong to General Electric. At the very least, General Electric would be entitled to manufacture, use and sell on a nonexclusive basis, your invention. This is called a shop-right.

Your Own Mouse Trap

Now suppose that you had developed a mouse trap at home on your own time, using your own equipment and material. Then, provided that the mouse trap was in reality completely

(Continued on page 6)

Y's Roger Eldridge Spurs Philosophical Seminars

by Howard Weisberg

Roger Eldridge is a quiet, pipe-smoking guy who is at Caltech for a year as a Danforth Scholar.

His office is the makeshift cubicle in the YMCA lounge; his official title is "Caltech YMCA Associate Secretary," but he also does other things, including the leading of an informal undergraduate philosophy seminar. Next term the Seminar will delve into "major world religions." Interested Techmen can take part by contacting Eldridge.

Much of Roger's life is swers to the "big questions" of life. His college major was existentialist philosophy, and his study at Yale Divinity School was "largely observational." The fact that he is still looking for answers makes discussion with him both intriguing and rewarding.

His original interest was science, and this led him to major in science at Cal Berkeley. But a short time later his interest shifted to the more abstract, and changed his major to philosophy. Since then he has attended Carleton College and Yale Divinity School, where he is now between second and third year of grad school.

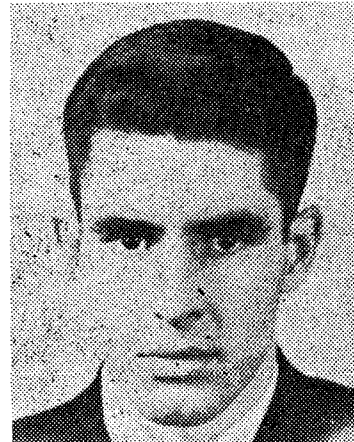
The fact that his special field is philosophy of science helps explain why the Danforth Foundation sent him to Caltech for this "internship." Through his contacts with scientists and students whose intellectual activities center around science he hopes to further understand "the concepts underlying the scientific method."

Another reason for his stay is to get some practical experience with students. He plans to teach philosophy after graduation.

Born in Colorado, this serious, enthusiastic philosopher has also lived in many parts of California, including Pomona and Pasadena. In 1954 he spent 3 months in Turkey studying their educational system.

Besides some more conventional hobbies and diversions, Eldridge is an ardent wood-carver, one of his accomplishments being the pipe which he smokes. Also, he has been married for a year and a half.

In the term that he has been here, Eldridge has found Caltech to be different from what he first expected. One factor was the intellectual atmosphere—"inquisitiveness, open-mindedness, broader interests."



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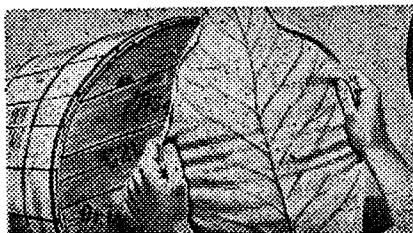
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Jazz

The Jazz Messengers

by Lloyd Kamins

Columbia C L 897. Featuring: Donald Byrd, trumpet; Hank Mobley, tenor sax; Horace Silver, piano; Doug Watkins, bass; Art Blakey, drums.

This group is the foremost of the many "hard-bop" tenor-trumpet quintets playing nowadays. The classification "hard-bop" is rather loosely applied to those modern musicians who continue to expand and develop the original bop form of the early greats, without deviating substantially from either the means or the ends.

The bulk of the sax men are Charlie Parker influenced, and the trumpeters pattern themselves to some degree after Miles Davis, Dizzy Gillespie, and Fats Navarro. I do not mean to imply that these modern musicians tend to copy or paraphrase the styles of the pioneers. Instead, it is as if they have accepted the same ground rules in the same game, but nevertheless continue to play the game in a manner dictated by their own particular whims and abilities.

Varied Arrangements

The Messengers, in particular, should be commended for the balance they strike between im-

provisation and arrangement. All ideas and themes are carefully thought out and performed flawlessly. Silver and Mobley manage to obtain an infinite variety of harmonies and counter-melodies in their arrangements, having only two horns to work with. The rhythm section is constantly enmeshed with the horns, so that the arrangement presents the band as a unit. Even as there is no free blowing by the horns in the written choruses, one gets the impression that each rhythm instrument is constrained to a rhythmic pattern essential to the overall effect.

Latin Beat

Much use is made of the Latin beat, with varied and effective results. Quite often, the first choruses will be Latin, while the remainder of the song is left in 4/4. Introductions and endings are written with taste and imagination, and there are often interludes within the solo section to kick off the soloist, in a manner equivalent to that of a two stage rocket. "Cross rhythms"

(Continued on page 6)

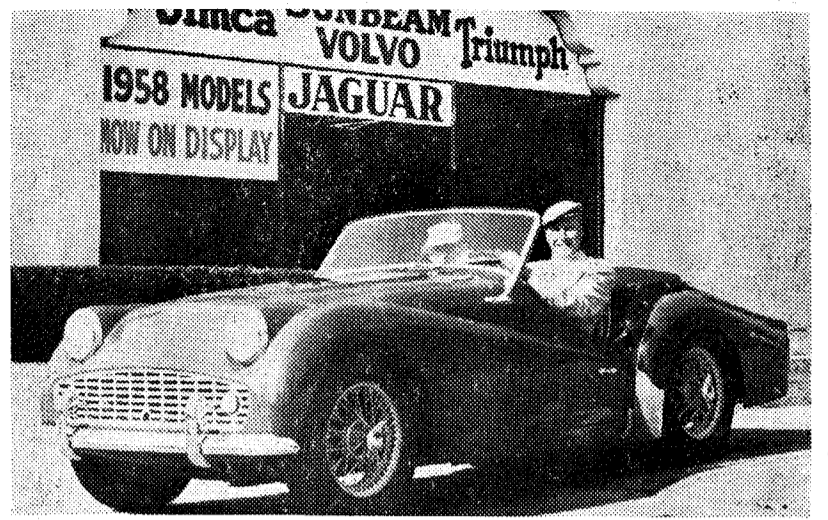
Pit and Paddock

There seems to be some confusion about the classes of sports cars, so we thought that we would give you a run down on them this week. Cars are divided into two main divisions for competition: production and mod modified. A production car is one that is produced in a quantity exceeding one hundred and fifty a year. Examples include the Porsche Speedster and the Corvette.

The modified class used to be what the name implies—a modified production car. Now any car that is unsuitable for street use, that is home-made, or that is made in a factory especially for racing is considered a modified car. D Type Jaguars and Porsche 550 RS Spyders are in this field.

These two categories are subdivided into classes as follows:

Production		Modified	
Class	Displacement (cc)	Class	Displacement (cc)
A	500 and up	A	8000 and up
B	3500-5000	B	5000-8000
C	2700-3500	C	3000-5000
D	2000-2700	D	2000-3000
E	1600-2000	E	1500-2000
F	1300-1600	F	1100-1500
G	750-1300	G	750-1100
H	500-750	H	500-750



Photo, which got lost in the shuffle last week, of the 1958 Triumph. Major styling change is the grill.

I 350-500 I 350-500 Jerry Ausin took third in a D Jag.
J below 350 J below 350

Classes A to E are often run together in one race, so it is not unusual to see a Triumph and a Corvette in the same race. Likewise the little cars are usually run off together. You can imagine the mayhem that would result from running a Maserati with the Crosley specials.

To those of you that are used to using cubic inches, a 1958 Edsel has a displacement of 7046 cc, while the MG has 1466cc. This should give you some idea of comparative sizes.

Paramount Ranch Results

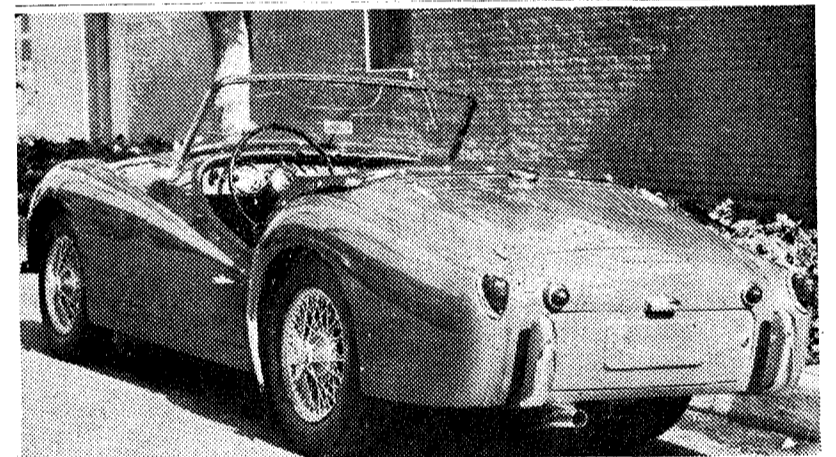
Dan Gurney won the over-1500 cc main event in a 4.9 liter Ferrari. This is unusual because the course has no long straights where the car can be opened up. This was Gurney's first race in a Ferrari, and he did a magnificent job. Bob Oker was second in an Aston-Martin DB3S, and

Ken Miles won a closely fought duel from Pierre Kunstle in the under-1500cc event. They were both driving Porsche RS Spyders. Third was Bob Oker in a Class F Maserati. The weekend was marred by bad accidents and two fatalities—a rather grim record.

Nassau Results

Stirling Moss drove a Ferrari to victory at Nassau last weekend, beating Carroll Shelby in a 4.5 Maserati. Phil Hill was third in a 3.5 Ferrari. This was the first time in his career that Moss has driven a Ferrari. He was forced to borrow the car after Ruth Levy crashed his 3.7 Aston-Martin. It looks like Ferrari will be the big power in racing for some time, since Maserati has quit racing!

—CRISSMAN, EGLINTON and NORTON



1958 Triumph, three quarter view.

Announcements

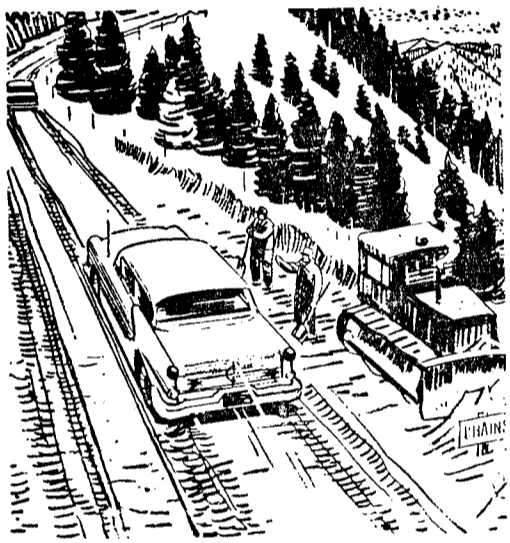
GRADES

The Registrar's office will mail term grades to students' home addresses. Students requesting this service must leave a self-addressed, stamped envelope with the office.

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Opinion

AS I SEE IT

by Dick Van Kirk

Monday night I traveled to the Brookside Park Golf Club to look in on the annual Fall Sports Banquet. I sat in on a very interesting talk given by George Trafton, all-time pro grid great, who played with the Chicago Bears for twelve years during the infancy of professional football. Trafton, a last minute substitute for Norm Van Brocklin, Los Angeles Ram quarterback, kept the crowd in stitches with his hilarious anecdotes about professional football in the gay '20's.

However, the main point of his talk seemed to be that his style of football was to win at all costs, whether the win comes as a direct result of a deliberate injury to another player or whether it comes from superior ability. I appreciate that this philosophy may be a handy one to use when your life's work and means of support come from playing or coaching in football, but his remarks on Monday night were not in direct accord with the Caltech philosophy on athletics in general.

Needless to say, winning is not a matter of life or death at Tech, and so, Caltech players learn, or just know, that they don't try to put an opposing player out of action just because he is a good athlete and is turning the tide of the contest.

I prefer to regard that player's actions and abilities as a direct challenge to the capabilities of the team on which I am playing and to myself as an individual team member. I would be disappointed to see such a player be forced to leave the game as the result of a deliberate injury incurred by actions of a teammate of mine. There is more joy to be gained from defeating a worthy opponent through fair competition than from sidelining all the other team's good players and beating their second string.

It's all a matter of ego. It is always a more rewarding experience to defeat a good team than to trounce a second-rate outfit. And if you're beaten by a better team, and you've played your hardest, the best policy is to admit that as good as you were, you ran up against a better crew.

Harriers Nab Third in SCC

Last Saturday morning, among the hills of Mt. San Antonio college, four seniors ran their last cross-country race for Caltech. Mike Rusch, Reed Saunders, Mike Konrad, and Mauritz Kallerud finished off their careers by pacing Tech to a third place in the conference finals.

Occidental was, of course, the team champion with 24 points. Redlands was second with 63, Tech had 70, while Pomona and Whittier forfeited. All was not lost for Whittier as Ron Perez took first place for the Poets, just beating out Tiger John Kerr. Ray Manion took third for the Bulldogs, followed by a whole string of Oxy men, until Rusch, who took 11th; other Tech scores were: Saunders too 14th, Shanks 16th, Hanson 18th, and Konrad 20th to round out the Beaver scoring.

Tech had a 2-2 record in league competition and a 4-3 record over all.

The frosh, having only four men, were unable to field a team, but some individuals did well. Ben Burke gave promise of future honors as he took seventh, while Dave Loebbaka was 11th.

Cagers Top Western In Final Minutes

Caltech's hoopsters unveiled a new, fighting spirit Tuesday, as the Beavers overcame an 11-point deficit to sink Cal Western 60-56.

Trailing 52-41 with five minutes remaining, Tech switched

into a full-court press, stopping the Owl offense completely. Meanwhile All-Conference forward, Fred Newman, found the running his total to 31 points for the game.

With less than two minutes to play, the Beavers surged ahead to stay, 55-54.

Trophy Moves To Blacker

resting place on Blacker's mantle last Friday, as Fleming couldn't run quite enough men in their cross-country meet to retain the trophy.

Blacker's Read Warriner and Roy Currence took first and second, with all five of the Fleming entries sweeping the next five positions. The crowd settled down to wait for the third Blacker entry, whose arrival would end the meet in a one-point victory for the challengers. At last he crossed, Blacker went home with the Discobolus, and Fleming men formed new and interesting ideas on the number of men they would enter in the next meet.

Jitters

The first half was marked by early-season jitters, as both clubs found the ball hard to handle. Western defended with a 2-1-2 zone, forcing the Beavers to shoot from the outside. But the Owls failed to dominate rebounds, despite their height advantage, and the half ended with the Beavers leading 26-25.

Near Record

Newman's 31-point total was two short of the school record, held jointly by Phil Conley and John Anson, now a graduate student.

Western's squad was composed almost entirely of freshmen. The San Diego school is building a strong hoop outfit for the future. They had previously lost to San Diego Naval Training Center, La Verne, and two junior colleges.

John Stene, Dick Van Kirk and Dave Blakemore played outstanding floor games. Stene missed much of the action after an angry Cal Western elbow found its mark on his nose.

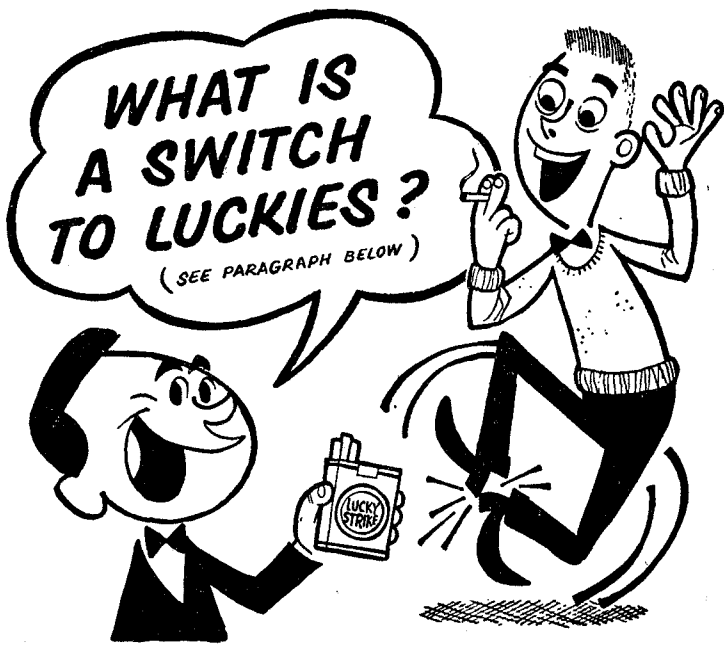
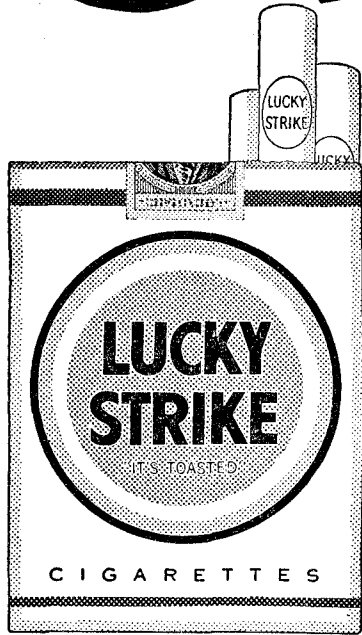
"Loose" Game

The referees called a "loose" game, resulting in fierce struggles for the ball and warmed-up tempers.

After a three-week lay-off, the Beavers meet Riverside during the first week of second term. The following week the schedule hits high gear, as Tech plays Pomona, Occidental, and La Verne.

Yesterday's game was too close to press time for a full report, but the result is included in Scoreboard, page one.

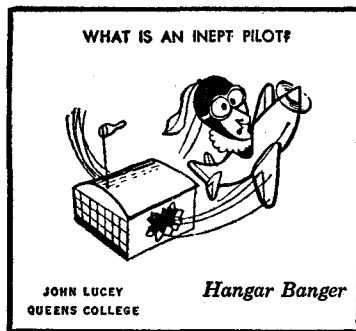
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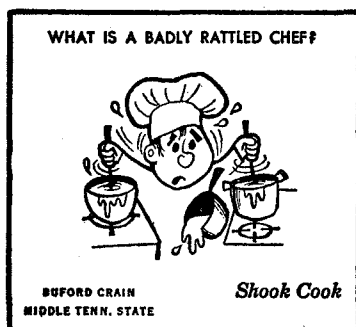
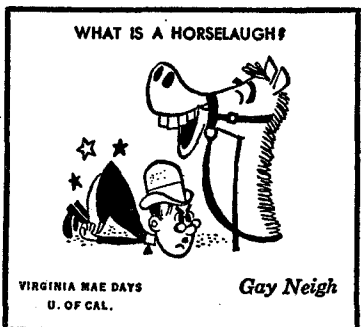
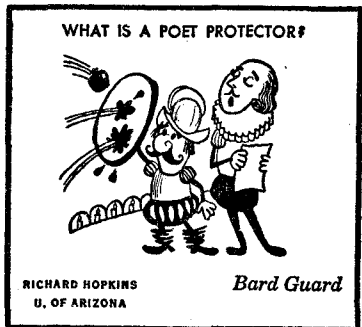


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LIGHT UP A *light* SMOKE - LIGHT UP A LUCKY!

Blue Slips Postpone Totem

The editors of Totem announced this week that the campus literary magazine would not be published until next term, and that material would still be accepted during the first week of the new term.

The announcement listed the editors' scholastic difficulties as the prime reason for the postponement.

The regular second term issue is still planned for an appearance at the end of the Winter term.

PATENTS

(Continued from page 4)

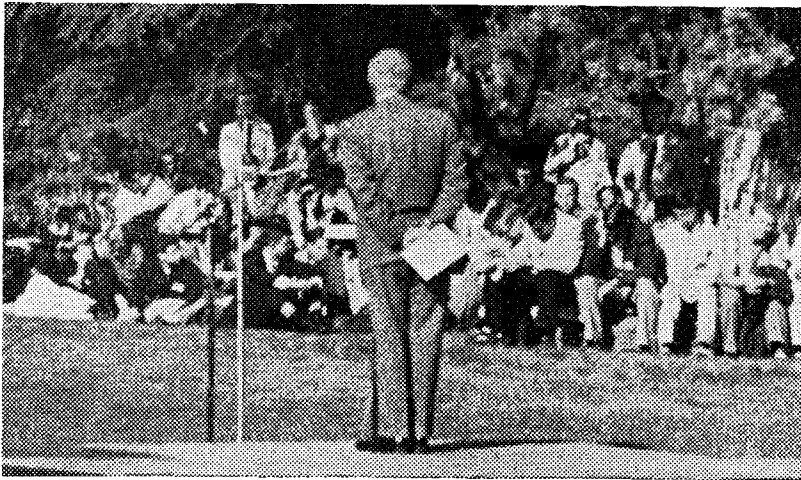
unrelated to the work you had been doing for General Electric, the invention would belong to you.

The way this situation is most often raised in the courts is where an employee, working under a standard employment contract, develops an item which is truly valuable. He does not tell his employer about this invention but quits his job and either tries to sell the invention to somebody else or to open up his own plant.

Precise Situation

This is precisely the situation that such employment contracts are designed to stop. The courts say that the employee was effectively being hired to invent. The money that he was receiving in the form of salary entitled the employer to all of the inventions of the employee. Under such a situation the court will force the engineer to assign or sell the invention to his former employer.

DuBridge Speaks . . .



ASCIT photo

Caltech's President Lee A. DuBridge addresses a Students' Day throng of 1300 to kick-off the afternoon program of lectures and demonstrations last Saturday.

Now, let's refer to trade secrets.

We mentioned last time that one of the most valuable and successfully kept trade secrets was the formula of Coca-Cola. Now, assume that you go to work for the Coca-Cola Bottling Company and, after having signed a contract requiring you to keep trade secrets confidential, you discover the ingredients used in making Coca-Cola. You then go to the XYZ Bottling Company and attempt to sell this information. The Coca-Cola Bottling Company can stop you in a court of law from divulging the information and, under these circumstances, stop the XYZ Bottling Company from manufacturing and distributing the syrup even if you had already told them of its composition.

Live With Contracts

Now we are not here to pass judgment on whether such contracts are good or bad. They exist, and you, as a working engineer or scientist, are going to have to live with them and when you get on the manage-

ment side of the business you are going to be very glad they do exist.

A corporation, as a corporation, does not make an invention. It is the individual members and employees of the corporation that develop the ideas and products which contribute so greatly to our present standard of living. If all such contracts were held illegal, corporations would hesitate to expend research money to develop new inventions if the inventors were permitted to sell the results of their labor to the highest bidder.

Purpose of Articles

In these five articles we have attempted to present briefly some information which is not normally included in the curricula of Caltech.

We have one final article in which, quite frankly, we will be proselyting. Next time we shall discuss the advantages of patent law as a career for engineers. It is suggested that you look it over. There are a lot worse ways of making \$25,000 a year.

JAZZ

(Continued from page 4)

are occasionally set up behind the soloist to change the flavor of the selection, and to enable the soloist to make use of this rhythm in his solo. In general, the solos themselves are unhampered. They are long enough so that the horn man is not stopped in mid-sentence, and they are short enough so that unity is still retained.

Silver is Rhythmic

Horace Silver is usually considered the best "comping" pianist alive. This refers to his rhythmic accompanying behind a horn. He utilizes the harmonic possibilities of the piano to the fullest extreme, while setting up pulsating and driving patterns of accents. He is consistently awesome in his choice of block chords. They all fit perfectly, but they seem to have come from nowhere, being far from the usual changes of the song. He and the soloist contrive to build the tension, but like a good piano player should, he allows the soloist to go on and capitalize on it.

Chord Substitutions

Silver's solos are another cause for wild enthusiasm. He plays simply, in single lines, at tempos slow enough to transmit the full import of every note, and every note has its purpose, melodically, harmonically, and rhythmically. Possessing a singular harmonic inventiveness he specializes in melodic phrases totally removed from the chordal structure. He stays within the bounds but the notes that he plays in his single line solos suggest, rather than determine, weird and beautiful chord substitutions. His phrasing and use of accents is superlative. No matter how difficult the passage is harmonically, it is rhythmically engaging. Although the harmonies are advanced and highly contrived, the rhythms are down to earth to the point of being almost gutbucket. I am firmly convinced that Silver could play

two notes and have them swing.

Full Tenor Tone

Mobley is his usual flowing self. I love his big fat tone. He sounds quite like Harold Land, the tenor man at the Christmas dance. Donald Byrd continues to establish himself as one of the brightest young trumpeters. His fierce, biting style is enhanced by his nimbleness and control. Although he is well within the harmonic structure throughout, he blows with enough fire and melodic invention to stay continually interesting.

Art Blakey and Doug Watkins work well together, and are in accord with Silver's work. Blakey is at his bombastic best, constrained, however, to a civilized and decent amount of noise. He sometimes tends to get out of hand. Blakey distinguishes himself in some wonderful short drum breaks in *Carol's Interlude*, interspersed with superbly arranged passages from the horns.

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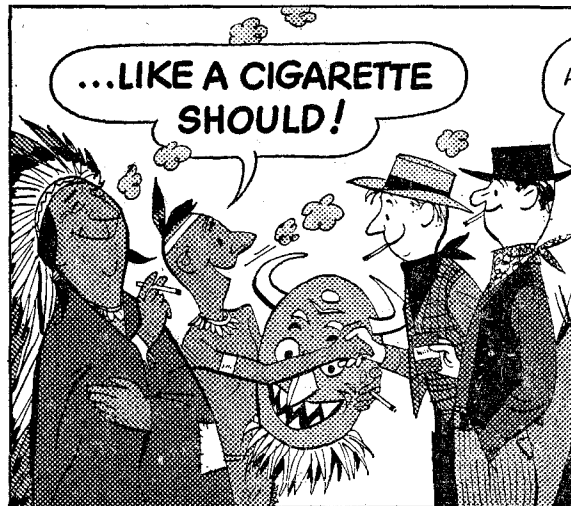
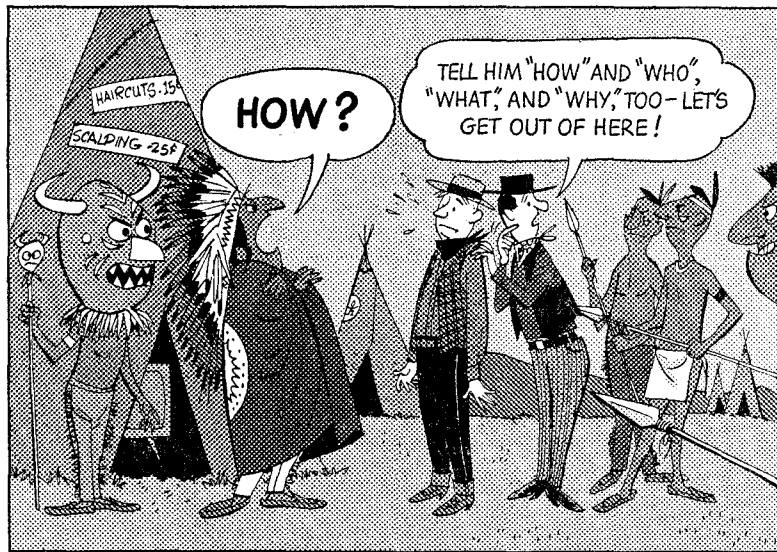
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