

# TRACK NEWSLETTER

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## DALLAS LONG SHINES IN FIRST EFFORT

Los Angeles, Aug. 29--Competing outdoors for the first time in 350 days, Dallas Long unleashed six puts over 60-feet, including a winning 62'9 $\frac{3}{4}$ " effort on his fourth try.

The night before he took some standing puts from a ring-less area and managed 57'0". He had hoped for 60'0", but had no idea that he would go almost 63'0".

He has received permission from Southern California to take a leave of absence from dental school for a month during October of next year should he make the U.S. Olympic squad. He plans a hard indoor campaign, and will train under Vern Wolfe, who first discovered him at North Phoenix High School.

In other competition, Bob Humphreys recorded a 194'9" toss in the discus.

## TWO WORLD, TWO U.S. MARKS SET

Culver City, Calif., Aug. 23--Two world, two American, and 23 Dean Cromwell Memorial Track Meet records were established during the third annual Culver City All-Comers track meet which attracted many of California's top stars.

Blaine Lindgren accounted for the two world marks in oddball events. He first zipped over the 70 yard high hurdles in 8.2 to break his own global mark by two tenths. He came back to better his own 120 yard low hurdle time by two tenths in 12.5. The Pasadena Athletic Association star set both marks during this same meet last year.

But even before the two hurdle events, a four-some from the LA Track Club erased the American record in the four-man eight-mile relay as the team ran a snappy 36:00.2. Robinson opened with an 8:56.8 two-mile leg, McGee ran 9:03.0, Larrieu 9:07.0, and Schul 8:53.6. An LATC "B" team toured the course in 37:58.2. The "A" team missed the world record, held by a national team from Great Britain, by 6.2 seconds.

Ray Hughes went after the two-mile steeplechase mark but was lacking for competition and could only clock a 10:14.4, some 20 seconds away from a new mark.

The final American record came in the next to last event, the 4000 meter walk, in which Donald De Noon of the Air Force broke the existing mark of 19:44.5 with his 19:11.9.

Parry O'Brien became the meet's only triple winner, when he captured the regular shot put event, the left and right handed shot put, and the discus. He took the shot with a mark of 61'1", the left and right with a sum of 104'11", and the discus at 185'5". Bob Humphreys was second in both the shot and discus with marks of 55'6" and 182'4".

C.K. Yang used a very poor grass runway and still vaulted 16'1 $\frac{1}{4}$ ", a mark which was announced at 16'1 $\frac{1}{4}$ ".

100, Burks (Strid) 9.8. 220, Davis (Jefferson, Calif. HS) 23.2. 300, Comer (Strid) 32.5. 600, Williams (Strid) 1:13.9. 1000, Grelle 2:14.4; 2. W. Williams (LATC) 2:15.4. Mile, Grelle 4:07.0; 2. Seaman (LATC) 4:13.9. 2MSt., Hughes (LATC) 10:14.4. 70HH, Lindgren 8.2 (new world record, old 8.4 by Lindgren); 2. Hildt (Ariz) 8.7. 120LH, Lindgren 12.5 (new world record, old 12.7 by Lindgren). 8Miler, LATC 36:00.2 (new American record). 4000mWalk, DeNoon (AF) 19:11.9 (new American record, old 19:44.5); 2. Lee (PasAA) 19:12.1; 3. Bowman (unat) 19:13.8.

HJ, Faust (Strid) 6'9 $\frac{1}{4}$ "; 2. Grundy (Strid) 6'6 $\frac{1}{4}$ ". PV, Yang 16'1 $\frac{1}{4}$ "; 2. Flanagan (SoCal) 14'0". BJ, Bond (SanJose) 23'4 $\frac{1}{2}$ ". TJ, Stokes (Strid) 49'2 $\frac{1}{2}$ "; 2. Andrews (unat) 47'0"; 3. Jackson (unat) 46'1 $\frac{1}{4}$ ". SP, O'Brien 61'1"; 2. Humphreys (PasAA) 55'6". DT, O'Brien 185'5"; 2. Humphreys 182'4". JT, Ulrich (PasAA) 233'9"; 2. Wilkinson (unat) 229'5". HT, Fremm (unat) 192'1"; 2. Lennon (C of Poly) 178'5 $\frac{1}{4}$ "; 3. Pryde (SBAC) 175'9 $\frac{1}{2}$ ". LRSP, O'Brien 104'11"; 2. Humphreys 96'6 $\frac{1}{4}$ "; 3. Cook (Strid) 82'6".

## LONG PUTS 63'9"; PREP TJs 51'8"

Los Angeles, Sept. 5--Only six days after he started his competitive season Dallas Long became the leading shot putter in the world this year with a mark of 63'9". The performance came during an All-Comers meet at Los Angeles State College.

He surpassed the world's leader, Vilmos Varju of Hungary, by a half an inch on his second throw. Long's series was 61'10 $\frac{1}{4}$ ", 63'9", 59'8 $\frac{1}{2}$ ", 61'8 $\frac{3}{4}$ ", F, 59'0". After he passed Varju he lost his incentive. He indicated that he felt he could have gone over 64'0" if he had had any competition.

But Long's performance was not the only noteworthy achievement. Mike Woods, who is a 17 years old and just beginning his senior year at Manual Arts High School in LA, triple jumped 51'8" to smash several all-time records.

He not only bested the international age 17 mark but also the age 18 record, the former being 51'6" and the latter 51'4". His mark also erased the 26 year old U.S. schoolboy mark of 49'7 $\frac{1}{2}$ " set by Bill Brown of Baker, Louisiana and of course broke the all-time junior class mark. It also ranks him third in the U.S. this year, only a half inch behind Ralph Boston and Darrell Horn.

There was no aiding wind. His series was 48'5 $\frac{1}{2}$ ", F, 49'7 $\frac{1}{2}$ ", 50'1 $\frac{1}{4}$ ", F (51'2 $\frac{1}{2}$ "), 51'8". Last week he did 48'10 $\frac{1}{4}$ " during an All-Comers meet at LA State.

## ROELANTS SETS STEEPLECHASE MARK

Louvain, Belgium, Sept. 7--Gaston Roelants of Belgium set a world 3000 meter steeplechase record in 8:29.6.

His mark erases Zdzislaw Krzyskowiak's mark of 8:30.4, set on Aug. 10, 1961, in Poland.

## Foreign News

(Including U.S. athletes in Europe)

LEIPZIG, E. GERMANY, DT, Milde 190'4". PV, Pruessger 15'7". SP, Langer 59'7 $\frac{1}{2}$ ".

BREMEN, W. GERMANY, Schumann 10.2w, 10.4w.

SOFIA, BULGARIA, PV, Tomasek (Czech) 15'9"; 2. Laufer (EGer) 15'5"; 3. Intra (Czech) 15'1 $\frac{1}{4}$ ". 400, Speer (EGer) 47.2. BJ, Barkovski (USSR) 25'1 $\frac{1}{4}$ ".

BALE, SWITZERLAND, 100, Hoenger 10.4. 400, Bruder 47.5. 800, Bachmann 1:49.8. JT, von Wartburg 250'3".

PRAGUE, CZECHOSLOVAKIA, BJ, Salmon 25'1 $\frac{1}{2}$ ". 800, Klaban (Austr) 1:50.1. SP, Skobla 58'6". DT, Danek 189'10 $\frac{1}{2}$ ".

CISM CHAMPIONSHIPS, Brussels, Belgium, 100, Poynter 10.4; 2. Moon 10.4; 3. Drayton 10.5. 200, Poynter 20.9; 2. Drayton 20.9; 3. Moon 21.4. 400, Heath 46.6; 2. Thiemann (Ger) 47.3; 3. Cassel 47.3; 4. Carroll 47.3. 800, Hauptert (L) 1:52.5. 1500, Cunliffe 3:43.9; 2. Snepvangers (Low Countries) 3:45.6. 3000St, Laris (US) 9:23.0. 5000, Allonsius (Bel) 14:12.2; 2. Gammoundi (Tun); 3. Truex 14:17.8. HH, Hicks 13.9; 2. Duriez 14.2. 400IH, Frinolli (It) 50.4; 2. Southern 51.2; 3. Cephass (US) 51.5; 4. Ablowich (US) 52.5. HJ, Hicks 6'7 $\frac{3}{8}$ ". PV, Hovik (Nor) 14'9 $\frac{1}{4}$ "; 2. Pinder (Ger) 14'9 $\frac{1}{4}$ "; 3. Murray (US) 14'9 $\frac{1}{4}$ ". BJ, Horn 25'3 $\frac{1}{4}$ "; 2. Moore 24'4 $\frac{1}{4}$ ". SP, Crane (US) 59'9". DT, Crane (US) 171'9". JT, Pedersen (Nor) 267'9 $\frac{1}{2}$ "; 2. Sbordone 244'11 $\frac{1}{2}$ "; 3. Winningham 241'7 $\frac{1}{2}$ ". 400R, US (Hicks, Drayton, Moon, Poynter) 40.2. 1600R, US 3:10.4.

HELSINKI, FINLAND, PV, Morris (US) 16'5 $\frac{3}{8}$ ". (life-time best)

VIRY-CHATILLON, FRANCE, 800, Chatelet 1:49.4; 2. Pelize 1:49.6; 3. Batista (P) 1:49.8. PV, Houvion 15'5"; 2. D'Encausse 15'1 $\frac{1}{4}$ ".

LONDON, 200, D. Jones (GB) 21.0; 2. Hebauf (WGer) 21.0. 5000, Norpoth (WGer) 14:08.6. 400IH, Cooper (GB) 51.6; 2. Haas (WGer) 51.7; 3. Janz (WGer) 51.9. 3000St, Herriott (GB) 8:45.6; 2. Muller (WGer) 8:49.2.

LEINA, EAST GERMANY, 800, Matuschewski 1:49.0. 5000, Janke 14:04.2. 10,000, Janke 29:34.2. 400IH, Singer 52.0. 3000St, Doerner 8:41.4. JT, Duehckoh 6'8 $\frac{3}{4}$ ". PV, Preussger 15'11". 2. Laufer 15'9"; 3. Malcher 15'3". SP, Langer 58'9 $\frac{1}{2}$ ". HT, Lotz 209'9". 400, Speer 47.4. TJ, Ruckborn 53'3 $\frac{3}{4}$ ". JT, Bade 259'7 $\frac{1}{2}$ ".

LJUBLJANA, YUGOSLAVIA, Salinger 3:42.6.

SOFIA, BULGARIA, HT, Bakarinov 219'4 $\frac{1}{2}$ ".

WARSAW, POLAND, 100, Foik 10.3.

LJUBLJANA, YUGOSLAVIA, 800, Juza (Czech) 1:49.7.

10,000, Cervan 29:17.9. 3000St, Span (Y) 8:40.5; 2. Zhanal (C) 8:42.2. 5000, Vazic (C) 14:15.0. PV, Tomasek (C) 15'9". DT, Danek (C) 192'6"; 2. Zemba (C) 182'11". HT, Matousek (C) 214'1"; 2. Malek (C) 209'11".

KARLSTAD, Mile, Jazy 4:00.8; 2. Larsson (Swe) 4:02.5; 3. Wadoux 4:04.2; 4. Hamarsland (Nor) 4:04.4. JT, Arntzen (Nor) 253'9"; 2. Covelli (US) 242'4".

LUXEMBOURG, 100, Enderlein (Ger) 10.4. 400, Kalfelder (Ger) 47.2. Mile, Jazy (Fr) 4:03.7; 2. Bernard (Fr) 4:03.7; 3. Norpoth (Ger) 4:04.3; 4. Wadoux (Fr) 4:04.7.

KIEV, USSR, 800, Bielitzki 1:49.0. 1500, Bielitzki 3:44.4. 5000, Samoilov 14:09.0. 10,000, Zakharov 29:21.4; 2. Dutov 29:22.6. 400IH, Anisimov 51.4; 2. Klenin 51.7. JT, Kuznetsov 268'5".

KARLSTAD, SWEDEN, Nilsson 6'11 $\frac{1}{2}$ ".

OSLO, NORWAY, 200, Bunaes 21.2. 5000, Tellesbo 14:08.0. PV, Hovik 15'1 $\frac{1}{4}$ ".

HALLE, EAST GERMANY, SP, Langer 60'2 $\frac{3}{4}$ ". DT, Milde 186'6".

POTSDAM, E. GERMANY, 10,000, Hannemann 29:40.0; 2. 29:41.2. BERLIN, PV, Beyme 15'1 $\frac{1}{4}$ ".

OSLO, HT, Strandli 204'10 $\frac{1}{2}$ ". HT, Spiridon (Rum) 6'8 $\frac{3}{4}$ ".

SOFIA, BULGARIA, 5000, Tyurin (USSR) 13:57.4.

OSLO, PV, Hovik 15'2".

OSLO, NORWAY, PV, Laitinen 15'9"; 2. Morris (US) 15'5"; 3. Nystrom 15'5". 1000, Salonen 2:22.4.

WARSAW, POLAND, 100, Juskowiak 10.3; 2. Maniak 10.4. 200, Foik 21.2; 2. Badenski 21.2. 400, Badenski 46.3; 2. Kowalski 47.2. 1500, Baran 3:42.8; 2. Kowalczyk 3:45.6; 3. Zimny 3:47.4. 3000St, Szklarczyk 8:54.0; 2. Motyl 8:56.8. 5000, Boguszewicz 14:02.8; 2. Zimny 14:02.8; 3. Mathias 14:13.2. HJ, Czernik 6'8 $\frac{3}{4}$ ". PV, Sokolowski 15'3". TJ, Schmidt 55'9"; 2. Jaskolski 52'5 $\frac{1}{4}$ ". SP, Komar 61'1 $\frac{1}{2}$ "; 2. Sosognik 60'1 $\frac{1}{2}$ "; 3. Kwiatkowski 58'3 $\frac{3}{4}$ ". DT, Piatkowski 184'7 $\frac{1}{2}$ "; 2. Begier 182'5". JT, Sidlo 263'5 $\frac{1}{2}$ "; 2. Radziwonowicz 245'5 $\frac{1}{2}$ ". HT, Cieply 211'11".

from Sven Ivar Johansson

Uddevalla, Sweden, Aug. 19--Stig Pettersson got revenge on John Thomas in the high jump. Pettersson captured the event with a leap of 6'11 $\frac{1}{8}$ " as Gene Johnson took second at 6'10". Thomas was third at the same height. Track results were slowed by heavy rains.

100, Hayes 10.5. 200, Hayes 21.7. 440 y, Williams 47.3; 2. Fernstrom 47.8. 800, Dupree 1:50.8; Boulter (GB) 1:50.8; 3. Frawley (US) 1:53.2. PV, Morris 15'11".

Noika, Finland, Aug. 25--Pentti Repo of Finland took back his Scandinavian record in the discus with a mark of 186'1 $\frac{1}{2}$ ".

Oslo, Aug. 27--28--Four national records were broken in the Norway--Rumania meet, which Norway won by four points, 108-104. Kjell Hovik set a Norwegian pole vault record at 15'2", Stein Haugen another in the discus at 184'8 $\frac{1}{2}$ ", and Carl Bunaes still another in the 400 meters at 47.1. Alexandru Bizim set a Rumanian javelin record at 266'5 $\frac{1}{2}$ ".

5000, Barabas (R) 14:15.2. 3000St, Dararau (R) 8:56.0. DT, Skaustedt 179'8 $\frac{3}{4}$ ". HT, Strandli 204'10 $\frac{3}{4}$ ". JT, Pedersen 262'4".

Stockholm, Aug. 31--Sept. 1--Over 35,000 spectators saw the two-day battle between Finland and Sweden. Finland captured its tenth straight victory, 220 to 190. Rainy weather had a bad ef-

fect on the results the first day. Nevertheless, S. Larsson of Sweden turned in a creditable 14:04.2 in the 5000 meters. While the gold medals were split, Finland won the meet through its depth. Pauli Nevala was injured and did not compete against Sweden.

800, Niemela (F) 1:49.7; 2. Rindetoft 1:50.2. 1500, Larsson 3:43.9; 2. Salonen (F) 3:44.1; 3. Olofsson 3:44.8; 4. Jauhainen (F) 3:46.2. 5000, Larsson 14:04.2; 2. Saloranta (F) 14:12.0. 10,000, Terevainen (F) 30:16.8. 3000St, Persson 8:45.0; 2. Kurkivuori (F) 8:47.0. 400R, Finland 40.8 (national record); 2. Sweden 41.5. 1600, Sweden 3:13.2. HJ, Pettersson 6'10 $\frac{3}{4}$ "; 2. Nilsson 6'10 $\frac{3}{4}$ "; 3. Hellen (F) 6'8 $\frac{3}{4}$ ". PV, Ankio (F) 15'7"; 2. Laitinen (F) 15'3"; 3. Nystrom (F) 15'3". BJ, Stenius (F) 25'1 $\frac{1}{4}$ "; 2. Eskola (F) 25'1 $\frac{1}{2}$ ". TJ, Wahlander 51'1 $\frac{1}{2}$ ". SP, Yrjola (F) 57'10 $\frac{1}{2}$ "; 2. Nisula (F) 57'10". DT, Repo (F) 189'0"; 2. Hangasvaara (F) 177'3". JT, Varis (F) 249'2". HT, Asplund 203'9". 400IH, Rintamaki (F) 51.5.

## POSSIBILITIES OF ERROR IN TIMING

by Harry A. Hathaway  
(Reprinted from "Coaching Bulletin")

The work done by expert timekeepers can be properly appreciated only with an understanding of the difficulties they meet and a knowledge of the results they achieve.

**The Watch:** The timekeepers first difficulty is the watch errors. For races of one mile or less, one-tenth second timers are commonly used. Even an expensive timer has a cumulative error which for different positions may have values differing by six-tenths in 15 minutes. Thus, in races longer than a mile the time taken on a timer may have an appreciable error. Even the best times have two further errors--the escapement error and the stopping error. The balance of a one-tenth second timer makes ten swings a second. In each swing it moves the lever from one extreme position to the other and allows the main-spring to move the hand forward through one division. The hand is in motion for .006 seconds and remains at rest for .094 seconds between movements.

**The Stopping Error:** When a one-tenth second timer is stopped, it records only the completed tenths of a second and because of the intervals when the hand is at rest, the watch may show the same time for either of two men A and B some distance apart. First-class runners near the end of a 100 yard race run at about 11 1/3 yards per second. If A reaches the finish just as the watch records 9.9 seconds and the watch runs on, B also will have a time of 9.9 seconds if he finishes less than .094 seconds later. He can just do this if he is 3'2" behind A. On the other hand, while the actual hand-movement takes place B runs 2 $\frac{1}{4}$  inches. Hence if A and B are 2 $\frac{1}{2}$  inches apart their times may differ by one-tenth.

**Combined Starting-Stopping Error:** In practice, runners in consecutive positions are not timed on the same watch. When a tenth of a second timer is started, the hand may first move after any interval from .000 to .094 seconds. If two timers are started simultaneously at the start of a race and the initial interval is .000 seconds on the first watch and .094 on the second watch, then each subsequent hand-movement in the first watch will precede that in the second watch by .09 seconds.

Let watch No. 1 time A and watch No. 2 time B. If watch No. 1 records 9.9 seconds just as A finishes, watch No. 2 will record 10.0 seconds exact! .19 seconds later. This means that A and B will get the same time if A is 6'5" behind A, while if he is 3'0" behind A the time of B will be .10 seconds less than that of A.

Let watch No. 2 time A now and watch No. 1 time B. If A breaks the tape .09 seconds after watch No. 2 records 9.9 seconds watch No. 1 will show 10.1 seconds after a further .02 seconds. Consequently B will get a time .20 or .30 seconds longer than A if he is eight inches or 4'0" respectively behind A.

The actual watch errors are quite small--96.4% of them from minus .05 to plus .05 seconds--but the resulting discrepancies are noticeable if each runner is timed on one watch only. If each of six runners is timed on three watches such discrepancies will be much less frequent, as in five cases out of six they will arise from the stopping errors only. Nevertheless, the timekeeper is timing to .01 seconds with a watch error of .05 to .10 seconds once in fifteen times. This is absurd. The error can be eliminated in short races by the use of a 1/100th second timer.

In races longer than one mile, the error of rate is the most important one. Time-of-day chronographs should therefore be used, as in these this error is very much less than in timers.

**Reaction Time:** The timekeepers' second major difficulty is the time taken by his response to a visual signal. If the watch is started at the instant the flash shows from the gun and stopped at the instant the runner reaches the finish, the only error in the time will be the watch error. The watch, however, starts an appreciable time after the flash and stops an appreciable time after the finish. Each interval is the time taken by a nervous impulse to travel from eye to brain and then to finger muscles plus the time taken by actual physical movement. For perfect timekeeping two equal and invari-

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able intervals are needed, but good timekeeping is the result of the differences between individual intervals being very small.

The timekeeper must therefore try to produce the same conditions at the start of every race. He must hold his watch still with one hand and start it with the other by squeezing together the thumb and forefinger, the joints of which touch the watch. This plan eliminates waste motion, a common cause of error. He must wait calmly but attentively for the signal, as otherwise his concentration will depend on the time he has to wait for the signal. His reaction-time may then vary from .10 to .30 seconds.

#### PRACTICE IMPROVES

The automatic reaction of the experienced timekeeper is faster and less variable than the novice's response, as the nervous impulse finds a shorter path. For this reason practice by himself, timing anything at all, will improve a man's reaction-time. Practice must be frequent and lengthy if he is to become a good timekeeper.

**Extraneous Errors:** Causes beyond his control may affect the timekeeper's reaction. To a barely perceptible signal it may be .08 seconds slower than to a brilliant flash, and .04 seconds delay from this cause is common. Anything which distracts the timekeeper's attention also cause a slower reaction. If, as the signal occurs, he is worried by someone who threatens to block his view of the starter, he will be about .07 seconds slower than usual. He must ignore the distraction and concentrate on the gun. Conversation or an interest in a field event can delay the reaction by .20 seconds. Anticipation of the signal is also possible, but good timekeepers avoid these errors.

**Anticipation:** The timekeeper should stop his watch when he sees the torso of the runner reach the finish. Besides a uniform reaction at the start, he needs a similar uniform reaction at the finish. This is much more difficult to acquire as he is bound to be conscious of the runners' approach. The nervous impulse is liable to start too soon, the timekeeper anticipates the finishing signal and the time if "fast." The error affects every man's time to some extent, but timekeepers are usually quite unconscious of it and often find the fact very difficult to credit. The prevalence of the error has, however, been demonstrated practically and it may be as much as .20 seconds or more.

To reduce this effect the best timekeepers remain relaxed, gaze across the track, and try to avoid looking at the runner while watching for the torso to reach the finish, before stopping the watch. Anticipation becomes worse if the timekeeper's eye dwells on the runners as they approach the tape. This may happen because the timekeeper has a personal interest in the runner or has difficulty in deciding which man to time or because the runner slows down considerably in the last few yards. To avert the danger the timekeeper must always fix his gaze on the far post when the runners are five yards away. If owing to inadequate facilities provided, some of the timekeepers cannot view the finish from positions on the finish line, they cannot avoid the error and anticipation of .30 seconds is quite possible.

#### CLOSE FINISHES

An additional difficulty arises if the timekeeper has to time the third or fourth runner. If he tries to count the men as they finish he may easily be too late if three men finish close together, while if he selects his man by watching the runners approach the line he will often have a large error of anticipation. The experienced timekeeper meets this difficulty by watching the runners until they are about five yards from the line. He then transfers his gaze to the finish knowing whether his man is likely to be one of two or three involved in a close finish. If so, he waits prepared to pick out the correct one from this group who will arrive together. It is not feasible to time two men in a sprint by splitting the hands of the watch as the knowledge that very little time is available for two actions often causes an error of anticipation in the first one.

#### ANTICIPATION

For good timekeeping, errors of anticipation must be kept to the minimum. Even the best men find this the most difficult error to counter, for they have also to make sure that they do not wait too long.

**Personal Variations:** Even the best timekeepers have errors (although small ones) due to variations in their reaction-times at start and finish. I have measured 500 of my own reaction-times to an unexpected signal and to one seen approaching in ideal conditions, where the only errors were my personal ones. From the results, I calculated mathematically the frequencies of the resulting errors. Ignoring frequencies of less than 1 in 500 I arrived at these figures:

Error/Frequency			
Minus	Occasions	Plus	Occasions
.08	2	.01	70
.07	4	.02	59
.06	7	.03	44
.05	12	.04	29
.04	20	.05	19
.03	32	.06	12

.92	47	.07	6
.01	62	.08	3
.00	72	Avg. error	.023

**Possible Combined Effect:** Good timekeepers using one-tenth second timers in fair conditions may have errors due to (1) poor starting signal, .00 to minus .04 seconds; (2) distractions, .00 to minus .07 seconds; (3) starting-stopping watch error, plus .05 to minus .05; (4) personal variations, plus .08 to minus .08. The resultant cumulative error could be minus .2 or plus .1 seconds without bad timekeeping; yet at the White City about 80 percent of the agreed times differ from the electric time by .08 seconds or less and only about three or four percent of the differences exceed .16 seconds.

**Improvement Suggestions:** There are still many tracks where facilities provided for timekeepers are inadequate. Each man must have a clear view of the finish from a point on the finish line. The starting gun too, could be improved. At the very least .45 with open barrel is needed, though a powder pistol is much better. Ideally the sound of the explosion should be conveyed from distant starts by microphone, landline and loudspeaker to the timekeepers. As electric current travels with the speed of light, the sound and visual signals would arrive simultaneously and would produce more uniform and slightly faster reactions. The timekeepers would then be working under the same conditions for all starts.

Watch errors would have little effect if Grade I timekeepers used 1/100th second timers in sprints, one-tenth second timers in middle-distance races, and time-of-day chronographs in distance races.

At the three indoor meetings at Wembley last season all the timekeepers used 1/100th second timers for the sprint races. We had a very good view of the finish and a good signal. In the 83 agreed times returned for these races, the difference between hand and electric time was .00 seconds 11 times; .0121; .0212; .0316; .047; .056; .061; .074; .084; .091.

Below I give (a) differences between the 223 times of the individual timekeepers and the corresponding electric times; and for comparison (b) the results given under Personal Variations proportionately reduced to a total of 223.

(a)	.00	19	.06	10
	.01	38	.07	11
	.02	50	.08	7
	.03	21	.09	5
	.04	30	.10	4
	.05	22	Over .10	6
	Avg.	.035		
(b)	.00	32	.05	14
	.01	59	.06	8½
	.02	47	.07	4½
	.03	34	.08	2
	.04	22	Avg.	.023

A total of 93.3% of individual times and 98.8% of agreed times differed from the electric time by .08 seconds or less. These results prove that good conditions yield good timekeeping and that the route to improved timekeeping is the elimination of errors, one by one.

## A NEW APPROACH TO TRACK

By Bob Briner

The Winona Christian Olympics is a unique program combining track and field with religion. This event which is held annually at Winona Lake, Indiana the last week in August is sponsored by the youth department of the Free Methodist Church of North America. It is believed to be the only denominationally sponsored track event in this country.

The event begins on Monday before the meet is held on Saturday. The athletes who are to run, meet with coaches from Greenville College, Spring Arbor College and Seattle Pacific College (these colleges are affiliated with the Free Methodist Church) not to discuss track technique, but to discuss the relationship of athletic competition to Christianity. The boys practice on their own each afternoon.

Participants for this event come from all over North America. Naturally most of the boys are Free Methodist, but any track man interested in this type of program is welcome to compete. While there have been no performances worthy of national attention, the quality of the meet is steadily improving. This year meet records were broken in all but one event.

An interesting sidelight on the Christian Olympics is the fact that it is held on the track on which Max Truex ran as a high schooler. Robert A. Crandall, General Director of Free Methodist Youth, says that he is very happy with this developing program and sees a long future for it as an activity sponsored by his denomination.

**INTERNATIONAL AGE LIST REVISED**

by Hugh Gardner

Emerson Case's All-time International Age Records list have not been revised for over two years, and he has retired from the project.

This year the new compiler has instituted several new approaches. The major change is an expansion beyond age 30--when the marks are of high quality. Quality is determined, in part, by the notation of the mark in the official statistician's guide, the ATFS annual.

Considerable difficulty was encountered in determining these marks, however, since many times only the year of birth is known and not the actual birthdate, which means that a mark could qualify for two age marks. For this reason, we are particularly anxious to have any corrections or additions to the list sent to the current compiler at Track and Field News, P.O. Box 296, Los Altos, Calif.

Indoor marks are not included in this tabulation.

**100 YARDS**

14	9.9	Charley Moch (USA) 6/8/48	L. A.	5/ 4/63
15	9.6	Aquine Jackson (USA) 10/28/46	Chicago	6/24/62
16	9.5	Jerry Williams (USA) 6/7/45	El Cerrito	4/28/62
17	9.4	Forrest Beaty (USA) 9/5/44	Glendale	3/30/62
18	9.3	Bob Hayes (USA) 12/20/42	Sioux Falls	6/ 2/61
19	9.2	Hayes	Miami	2/ 2/62
20	9.1	Hayes	St. Louis	6/21/63
21	9.2	Frank Budd (USA) 9/20/39	NYC	6/24/61
		Harry Jerome (Can) 9/30/40	Vancouver	8/25/62
		Jerome	Toronto	9/ 3/62
22	9.3	Hec Hogan (Aus) 7/15/31	Sydney	3/15/54
		Bill Woodhouse (USA) 12/11/36	Abilene	5/ 5/59
		Ray Norton (USA) 9/22/37	San Jose	4/ 2/60
	n	Paul Drayton (USA) 5/8/39	NYC	6/24/61
		Stone Johnson (USA) 4/26/40	Houston	5/11/62
		Budd	Villanova	5/12/62
		Budd	Eugene	6/15/62
		Budd	Walnut	6/22/62
		Dennis Richardson (USA) 10/25/40	Abilene	3/23/63
		Gary Ray (USA) 3/31/41	Birmingham	5/18/63
23	9.3	Mel Patton (USA) 11/16/24	Fresno	5/15/48
		Joe Thornton (USA) 3/3/39	Petersburg	5/19/62
24	9.3	Jim Golliday (USA) 4/23/31	Evanston	5/14/55
	n	Ira Murchison (USA) 2/6/33	Austin	6/14/57
		Serafino Antao (Ken) 10/30/37	Nairobi	9/22/62
		Antao	Kampala	10/ 6/62
		Drayton	St. Louis	6/21/63
25	9.4	Harrison Dillard (USA) 7/8/23	Georgetown	4/16/49
		Murchison	Kalamazoo	5/10/58
		Murchison	Kalamazoo	5/31/58
	n	Murchison	Bakersfield	6/20/58
	n	Orlando Hazley (USA) 6/16/33	Norman	5/16/59
	n	Bob Poynter (USA) 5/12/37	Modesto	5/26/62
	n	Poynter	Walnut	6/22/62
		John Moon (USA) 2/19/38	Williamston	5/25/63
	n	Paul Winder (USA) 11/30/37	St. Louis	6/21/63
26	9.3n	David James (USA) 2/12/35	NYC	6/24/61
27	9.4	Bobby Green (USA) 5/31/28	San Anton.	6/13/55
28	9.4	Keith Gardner (Jam) 9/26/29	Cardiff	7/19/58
		Jim Omagbemi (Nigeria) 11/26/30	Leverkusen	5/30/59
		Murchison	Ft. Wayne	6/10/61
29	9.5n	Omagbemi	Modesto	5/28/60
		Murchison	Carbondale	4/13/62
30	9.5	Otis Davis (USA) 7/12/32	Eugene	8/ /62
31	9.5	Denis Shore (SA) 5/24/15	Queenswn	5/24/46
		Omagbemi	San Jose	3/17/62
32	9.5	Buddy Fowlkes (USA) 1/18/28	Atlanta	5/28/60
33	9.6	Fowlkes	Gainesville	5/ 6/61
34	9.5	Fowlkes	Atlanta	5/19/62

**100 METERS**

16	10.5	Bob Fisher-Smith (Can) 1944	Saskatoon	7/15/60
	n	Forrest Beaty (USA) 9/5/44	L. A.	6/ 9/61
17	10.4	Eddie Morris (USA) 8/9/22	Fresno	6/28/40
		Carl-Fredrik Buaes (Nor) 10/16/39	Kongsberg	9/15/57
18	10.3	Peter Radford (GB) 9/20/39	Paris	9/13/58
		Peter Gamber (Ger) 11/30/40	Dortmund	9/12/59
		Horacio Esteves (Ven) 7/6/41	Caracas	5/ 3/60
19	10.0	Harry Jerome (Can) 9/30/40	Saskatoon	7/15/60
20	10.1	Leamon King (USA) 2/13/36	Ontario	10/20/56
		King	Santa Ana	10/27/56

21	10.1	Ray Norton (USA) 9/22/37	San Jose	4/18/59
22	10.2	Ralph Metcalfe (USA) 5/29/10	Chicago	6/11/32
		Jesse Owens (USA) 9/12/13	Chicago	6/20/36
		Hec Hogan (Aus) 7/15/31	Sydney	3/13/54
		Manfred Garmar (Ger) 3/10/35	Cologne	7/31/57
		Germer	Budapest	10/12/57
		Paul Winder (USA) 11/30/37	Berkeley	6/18/60
		Enrique Figuerola (Cuba) 7/15/38	Havana	8/ 2/60
		Rafael Romero (Ven) 5/22/38	Caracas	3/23/61
		Anatoliy Ryedko (SU) 1940	Alma-Ata	9/22/62
23	10.0	Armin Hary (Ger) 3/22/37	Zurich	6/21/60
24	10.1	Willie Williams (USA) 9/12/31	Berlin	8/ 3/56
		Williams	Berlin	8/ 5/56
		Dave Sime (USA) 7/25/36	Walnut	8/12/60
25	10.2n	Thane Baker (USA) 10/4/31	Santa Ana	10/27/56
		Ira Murchison (USA) 2/6/33	Moscow	7/27/58
		David James (USA) 2/12/35	Ankara	4/22/60
		Germer	Malmö	6/ 7/60
		Abdoul Seye (France) 7/30/34	Paris	7/ 2/60
		Vilem Mandlik (CSR) 4/7/36	Prague	6/23/61
		Andrzej Zielinski (Pol) 8/20/36	Prague	6/ 2/62
		Zielinski	Warsaw	6/ 9/62
26	10.2	Jose Telles d'Conceicao (Br) 5/23/31	Sao Paulo	11/24/57
		Heinz Futterer (Ger) 10/14/31	Hanover	7/20/58
	n	Murchison	Austin	4/ 3/59
		Zielinski	Warsaw	6/ 1/63
27	10.1	Lloyd LaBeach (Pan) 6/28/23	Guyana	10/ 7/50
28	10.2	Marian Foik (Pol) 10/16/33	Olsztyn	8/11/62
29	10.3	Erich Borchmeyer (Ger) 1/23/05	Berlin	7/ 1/34
		Borchmeyer	Frankft/M	7/22/34
		McDonald Bailey (Trinidad) 12/8/20	Halsnburg	8/13/50
		Boris Tokaryev (SU) 5/16/27	Kiev	6/ 4/56
		Tokaryev	Tashkent	10/29/56
		Tom Fuller (USA) 7/11/30	Quantico	6/10/60
		Foik	Hamburg	7/18/63
	n	Foik	Bremhrvn	7/20/63
		Foik	Varsovie	9/ 2/63
30	10.2	Barney Ewell (USA) 2/25/18	Evanston	7/ 9/48
		Bailey	Belgrade	8/25/51
31	10.3	Yuriy Konovalov (SU) 12/30/29	Nalchik	9/24/61
32	10.4	Konovalov	Baku	6/ /62

**200 METERS (Turn)**

14	21.9*	Charley Moch (USA) 6/8/48	L. A.	5/ 4/63
15	21.9*	Aquine Jackson (USA) 10/28/46	Milwaukee	6/ 1/62
16	21.0n	Forrest Beaty (USA) 9/5/44	L. A.	6/ 9/61
17	21.1*	Beaty	Burbank	5/ 4/62
18	20.8	Peter Radford (GB) 9/20/39	Paris	9/14/58
		Peter Laeng (Swz) 3/29/42	Basel	9/ 3/61
19	20.4*	Bob Hayes (USA) 12/20/42	Walnut	6/23/62
20	20.2*	Henry Carr (USA) 11/27/42	Tempe	3/23/63
21	20.5	Livio Berruti (Italy) 5/19/39	Rome (2x)	9/ 3/60
22	20.5*	Ray Norton (USA) 9/22/37	Berkeley	3/19/60
		Norton	Stanford	7/ 2/60
23	20.3n	Charley Tidwell (USA) 3/30/37	Abilene	4/16/60
24	20.6	Andy Stanfield (USA) 12/9/27	L. A.	6/28/52
	*	Thane Baker (USA) 10/4/31	Riverside	6/ 9/56
		Baker	Bakersfield	6/23/56
25	20.6	Baker	Santa Ana	10/27/56
26	20.6	Marian Foik (Pol) 10/16/33	Lodz	7/31/60
	n	Les Carney (USA) 3/31/34	Rome	9/ 3/60
27	20.7	Lloyd LaBeach (Pan) 6/28/23	Goteborg	8/11/50
		LaBeach	Goteborg	9/ 1/50
		Abdul Amu (Nigeria) 11/13/33	Yaba	4/15/61
		Foik	Warsaw	6/18/61
		Foik	Prague	6/28/61
		David James (USA) 2/12/35	Lausanne	7/21/62
		James	Zurich	8/ 4/62
28	20.6n	Stanfield	Bakersfield	6/23/56
29	20.9	McDonald Bailey (Trinidad) 12/8/20	Paris	9/10/50
	n	Bailey	Goteborg	9/24/50
30	20.7n	Barney Ewell (USA) 2/25/18	Evanston	7/10/48
31	20.8*	Herb McKenley (Jam) 7/10/22	Glasgow	8/ 2/52
32	21.2*	Bailey	London	7/10/53
33	21.3*	Buddy Fowlkes (USA) 1/18/28	Gainesville	5/ 6/61

\* indicates 220 time less 1/10th second.

% indicates a 200 meter course short by 1'4"; add one-tenth second.

Turn performances on over-size (over 440 yards) ovals are not counted as valid marks, but are considered in the straightaway lists. This explains the omission of Germer's 20.4 at 22 and Seye's tying it at 20.4 on the Cologne 500-meter track.

# HISTORY OF POLE VAULT

by Ray Kring

Track Coach, Pittsburg (California) High School

The front page headlines in late May, 1927, were carrying stories about Captain Charles A. Lindbergh, a U.S. air mail pilot, who left Roosevelt Field, Long Island, alone in a monoplane, the "Spirit of St. Louis", headed non-stop for Paris. The sport pages of that year were carrying headlines, too. Perhaps they were not as far reaching to the general public, but they were just as dramatic. "Yale Man Does the Impossible in the Pole Vault" is the way the newspapers told the unsuspecting public that on the afternoon of May 28, 1927, Hoff's prediction had come true. At the IC4A championships at Philadelphia, a tall, lean young man by the name of Sabin W. Carr of Yalesquirmed over the crossbar at the incredible height of 14 feet. It took 23 years for man to travel 2 feet since that April day in 1904 when Norman Dole first cleared 12 feet. Sabin Carr, then, was the pioneer who paved the way for some 34 men to clear that magic height of 14 feet during the next 13 years.

The next three best marks of 1927 went to Western vaulters. Lee Barnes of USC was second to Carr in the intercollegiate with a leap of 13'9 1/2". Ward Edmonds of Stanford University was third in the same meet at 13'6 1/4", while Jack Williams of USC cleared 13'6" in the PCC meet.

As was pointed out earlier, an Olympic year seems to bring about superb performances, more so than any other year. The Olympic year of 1928 was no exception. Three men sailed over 14 feet, and Carr's year old record was smashed. At the second annual West Coast Relays in Fresno, Calif., little Lee Barnes of USC soared 14'1 1/2" for a new world record. In that same meet, Edmonds became the third man in history to clear 14 feet when he was given credit for that height behind Barnes. Earlier in the year Carr made 14'1" for a new world indoor record.

At the Final Olympic Tryouts, on July 9, 1928, Droegmuller, Barnes, and Carr all tied for first at 13'9". Charles McGinnis, vaulting for the Chicago A.A. was fourth in that meet at 13'6", and also qualified for the trip to the Games

The IX Olympiad was held at Amsterdam, and was marked by cold and rainy weather. It also marked the return to Olympic competition of Germany; who had been turned away from the Games of 1920 and 1924, and had not participated since 1912.

America again took the first three places in the pole vaulting competition. Carr was Olympic champion with a new Games' record of 13'9 3/8". Droegmuller was second at 13'5 3/8", while McGinnis captured the third spot at 12'11 1/2". Vic Pickard of Canada, again placed in the Games, this time fourth, with a leap of 12'11 1/2". Nakazawa was the first of many great vaulters to come from that island country.

The year 1929 saw the "Roaring Twenties" drawing to a fast close. Everything was wonderful, and then the prosperity collapsed in the stock market crash.

The pole vault news of 1929 was dim also. There were no 14 foot vaults outdoors that year, although Fred Sturdy of Yale did clear that height indoors. Sturdy also had the best outdoor height of the year, winning the AAU championships at Denver, Colorado, with a leap of 13'9 1/4", breaking Barnes' record by 1/4". Sturdy, Ward Edmonds of Stanford, and Jack Williams of USC, all tied for the IC4A title at 13'9", and Edmonds and Thomas Warne of Northwestern University won the NCAA meet with vaults of 13' 8 7/8" for a meet record.

Henry F. Canby of the State University of Iowa, set a new world indoor vaulting record for a dirt runway by clearing 13'7 1/2" at the 19th annual Western Conference Indoor Championships, however, Warne broke that mark by a quarter inch when he sailed over 13' 7 3/4" one week later.

Three non-Americans set records for their countries during 1929. de Castro of Brazil cleared 13'2", Jope Lindroth of Finland leaped 13' 1 7/8", and Wegner of Germany had a best mark of 13'1".

The year 1930 produced one 14 foot pole vault. Warne cleared that height on May 3, 1930, to win the Ohio Relays. He also cleared 13'11" in winning the Drake Relays. The second best vaulter of the year was Verne McDermott of the University of Illinois, who set a new Big 10 record in again winning that title. This time he cleared 13'10 5/8".

The best foreign vaulter of 1930 was Shuhei Nishida of Japan. In an international meet in Oslo, Norway, Nishida cleared 13'6" for a new Japanese record. The event, in the meet, was won by Warne, with a leap of 13'9", proving him to be the best vaulter in the world for the year 1930.

Again only one man cleared 14 feet during the 1931 season, and in him another new and great name came upon the vaulting scene. He was husky William N. Graber of USC, the son of an olive rancher from Ontario, Calif. Graber won the IC4A meet with a vault of 14' 1/2" and in so doing broke Carr's meet record of 14 feet even set in 1927. The second best vaults of the year belonged to two Midwest

champions, Warne and McDermott, who shared the NCAA title with Garber at 13'10 5/8".

In 1932, the year of the X Olympiad, pole vaulting marks again skyrocketed upward. Three men had best performances over 14 feet, and 10 others cleared 13'10" or better.

At the combined AAU meet and Final Olympic Tryouts held at Stanford University, the pole vaulters were putting on a dramatic show for the spectators. With the bar resting at 13'10", Jefferson, Zimmerman, Sturdy, Bernard Deacon of the LAAC, William Miller of Stanford, and Graber, all cleared that height. At no other time in the history had so many vaulters gone so high in one meet. The bar was then raised to 14'1 5/8", a height that surpassed Barnes' world record of 14'1 1/2". Miller and Graber sailed over, the other four failed and were eliminated. The bar was then pladed at 14'4 3/8" and Graber flew over for a new world standard and the highest mark ever attained by mortal man to that date. Jefferson won the vault-off for third, and joined Miller and Graber as the American representatives in the Olympic Games.

The X Olympiad in Los Angeles brought track and field to one of the finest and largest stadiums in the world. Los Angeles outdid itself by providing facilities that would be hard to improve upon. Over 100,000 people witnessed the opening of the Games on July 30, 1932. Three days later the pole vault event was held, and Miller won a tough battle with the Japanese champion Shuhei Nishida. Miller cleared 14'1 1/8", for a new Olympic and world record. Miller's mark was recognized before Graber's in as much as it was established in Olympic competition. Nishida was second, one centimeter lower, at 14'1 1/4" which also broke the old Olympic record. Third place went to Jefferson at 13'9", while the favorite, Graber, was fourth at 13'7 1/4". Another athlete from the land of the rising sun, Shizuo Mokizuki, won fifth place with a vault of 13'1 1/2", and the Brazilian, Lucido de Castro, was sixth with a jump of 12'9 1/2".

Four men vaulted 14 feet or higher during 1933. On May 6, 1933, in a dual meet with Stanford at Los Angeles, Graber leaped 14' 2 3/8". This jump broke the official world record of 14'1 1/8" set by Miller in the Olympic Games the previous year, but was not better than Graber's 14'4 3/8" that was up for approval.

The other 14 footers that year were Keith Brown of Yale, with a best mark of 14'1 1/2". Matthew Gordy of Louisiana State University who became the first athlete from the South to scale 14 feet when he cleared that height on June 17, 1933, at Chicago, to tie with Brown for the AAU title. Miller also had a best of 14 feet in 1933.

Bernard Deacon of Stanford with the best mark in the world that year with a leap of 14'2 3/4" at Palo Alto on March 10. On June 23, at Los Angeles, an unknown from little San Diego State Teachers College won the NCAA meet with a new meet record. Jack Rand was his name, and 14' 1/2" was the height. Two other vaulters cleared 14' 1/2" that same year: world record holder Graber and a newcomer to the pole vaulting scene, a freshman at USC, William Sefton. The other 14 foot vaulter of the year was Wirt Thompson of Yale, who sailed over that height on June 16 at Princeton, N.J. in winning the Princeton Invitational.

## PROGRESSION OF 16-FOOT VAULTERS

by Hugh Gardner

It is interesting to note the different rate of acceleration by which all of the 16-footers have reached that height. Compare the slow, steady improvement of Ron Morris, who was more than a foot higher than any of them in 1958, to Brian Sternberg or Wolfgang Reinhardt who was still struggling with 12 feet in 1960. Where there are blank spaces the mark simply could not be located, if there was one at all. The marks include both indoor and outdoor performances with no distinction.

	1958	1959	1960	1961	1962	1963
John Pennel (US)	13'7"		15' 1/4"	15'1 1/2"	15' 1/4"	17' 3/4"
Pentti Nikula (US)	13'7 3/4"	13'10 1/4"	14'6"	14'9 1/2"	16'2 1/2"	16'8 3/4"
Brian Sternberg (US)	10'0"	11'9"	12'0"	14'3 3/8"	15'8"	16'8"
Ron Morris (US)	15'3"	15'3"	15'5 1/4"	15'8"	16'1"	16'5 3/4"
Yang Chuan-Kwang (F)	14'2 1/2"	14'1 1/4"	14'6"	14'6"	14'6 3/4"	16'5"
John Uelses (US)	14' 1/4"	14'7"	14'8 1/2"	15'6 1/2"	16'3"	16'3"
Don Meyers (US)		13'10 1/2"	14'7 3/4"	14'5 3/4"	16'1 1/4"	16'2 1/4"
Dave Tork (US)	14'1 1/4"	14'5"	14'9"	15'0"	16'2"	16'2 1/4"
Wolfgang Reinhardt (Ger)			12'1 3/4"	13'6 1/2"	15'2 1/4"	16'1 3/4"
Warren Brattlof (US)			13'5 1/2"	14'5 1/4"	15'2 1/4"	16'1 1/4"
Fred Hansen (US)	13'0"	13'5 1/2"	13'6"	15'0"	15'6 1/2"	16'1"
John Belitza (US)	12'8"	12'8"	14'5 1/2"	14'8 1/2"	15'8 1/4"	16' 1/2"
Gerald Pratt (US)		13'9 1/2"	14'0"	15'0"	15'7"	16' 1/2"
John Rose (US)	14'1"	14'1"	14'8"	15'3"	15'6 1/2"	16' 1/2"

The meteoric rise in heights is due of course to the glass pole. Information on when these vaulters switched from metal to fiber glass is incomplete and details will be appreciated.



MARC SAVAGE (Claremont, Calif.) became a new national record holder with 15'1/2" in the Golden West meet of 1963. The old mark of 15'0" was established by Jim Brewer of North Phoenix, Ariz. in 1957. Savage cleared 14'0" or better 25 times in 15 meets; he failed in only three meets to hit that figure. His 18 meet average was 14'3.482".



The high hurdles final of the California State meet was the fastest mass hurdle race of the 1963 season. Three men were clocked in 13.9 and two in 14.0. So fast was the race that the winner, CARL DAVIS (Compton), is out of the picture. From left, RON COPELAND (Dorsey, LA) 8th, nt; ROGER MOODY (Corona) 3rd, 13.9; DON SHY (Ganesha, Pomona) 4th, 14.0; ED ORR (Jefferson, LA) 2nd, 13.9; TOM GILLETTE (Jefferson, LA) 7th, 14.3; GREG FORD (Clayton Valley, Concord) 5th, 14.0. Dale Everett (Chino), 6th, 14.2, not shown. (Photo by Steve Murdock)



ALVIN MANN (Edison, Fresno) lunges into the tape to upset JOHN HOUSE (Muir, Pasadena), far right, in the California State 100. TRAVIS WILLIAMS (Ellis, Richmond), second from right, ran third. Smiling TOMMY SMITH (Lemoore) ran fourth. Mann, who won the lows, twice tied the national record of 18.3 earlier in the season. (Photo by Steve Murdock)



A 16-year-old Amityville, N.Y. runner won the State finals.



TRACY SMITH (Lemoore) ran 4:12.6 in the steeplechase.



or, KEN DONOVAN of Memorial,  
ran 14.0 and 15.6 in the New York  
e Murdock photo)



BART BARTO and Coach MEL LIGHT, Mercer Is-  
land, Wash., discus Barto's 1:53.1 during the 1962  
and 63 seasons.



CLINTON JONES (Cathedral Latin, Clevel-  
land) won the Ohio State highs in 13.9.



arcadia, Calif.) recorded marks of  
9:17.0 two miles, 9:30.5n 3000  
ve Murdock photo)



DENNIS CARR (Lowell, Whittier) captured the California  
State half in 1:50.6. BOB HOSE (Madison, San Diego)  
took second in 1:51.7 for a junior record. (Murdock)



DELMAN MC NABB (Lake Charles, La.)  
set a national record in the javelin at  
231'1½". (American Press photo)

## ALL-TIME FRESHMAN TRACK AND FIELD PERFORMERS

by Dick Drake

The first All-Time Freshman list was compiled by Track & Field News in 1962 covering all performers through the 1961 season. This is the first revision since that list was printed, which can be purchased through T&FN for \$1.00. (Most events are 25 deep in the original guide.)

In keeping with the first guide, this list includes all freshmen including junior college freshmen and freshmen who compete for the varsity.

Please send any comments or errors and omissions to T&FN.

**100-YARD DASH**

9.3	Hayes (FlaA&M V) 61
9.4	Anderson (Cal) 34
	Owens (OhioSt) 34
	King (Cal) 55
	Morrow (ACC V) 55
	Cassell (ETennSt V) 57
	Jones (EMich V) 57
	White (Harbor JC) 57
	White (FlaA&M V) 58
	Moon (TennA&I V) 58
	Garton (ETexasSt V) 59
	Drayton (Villanova) 59
	Jerome (Oregon) 60
	Carr (ArizSt V) 62
	Roberts (NCaRC) 63
	Roderick (SMU) 63
<b>220-YARD DASH</b>	
20.1	Hayes (FlaA&M V) 61
	Carr (ArizSt V) 62
20.5*	Davis (Salinas JC) 40
p	Levinson (Houston) 58
p	Williams (Kansas) 58
	Omagbemi (SanJose) 60
	Johnson (NorthernSt V) 61
	Lasater (ETexasSt V) 62
n	Cowings (ColSeq JC) 62
	Roberts (NCaRC) 63

\*=200 meters time plus 0.1

**440-YARD DASH**

45.8	Williams (ArizSt V) 62
46.2n	Saddler (TexSouth V) 62
46.3	Archibald (Cal) 62
46.6	Nelson (TexA&M) 62
46.6	Roberts (NCaRC V) 63
46.7n	Staten (SanDiego CC) 58
	Parker (MichSt) 61
46.8n	Bowens (Win-Salem V) 59
	Cawley (SoCal) 60
47.0n	Klemmer (Cal) 40
n	Southern (Texas) 56

**880-YARD RUN**

1:49.4n	Van Asten (MtSAC JC) 61
1:49.7n	Groth (Clark, W JC) 62
n	Carroll (Villanova) 62
1:49.9n	Seaman (UCLA) 54
p	Rawson (Missouri) 61
1:50.0	Delany (Villanova) 55
n	San Romani (Wichita) 60
1:50.1n	Gibeau (SanJose) 62
1:50.2n	Parker (OreSt) 63
1:50.3	Atterberry (MichSt) 57

**MILE RUN**

4:03.4n	Wiggs (SoIll) 61
4:05.6n	Romo (Texas) 63
4:05.7n	Sullivan (Vill) 62
	Day (UCLA) 63
4:05.8	Delany (Villanova) 55
4:06.7	Burleson (Oregon) 59
4:06.9n	Depastas (Stanford) 59
4:07.5n	Almond (Houston) 59
4:07.6n	Elliott (Houston) 62
4:07.7n	Jones (Occidental) 61
	Jenkins (SanDiego CC) 63

**TWO-MILE RUN**

8:46.7i	Lawrence (Houston) 59
8:53.4n	Wiggs (SoIll) 61
8:54.5p	Lawrence (Houston) 58
8:57.0ni	Barry (Villanova) 50
8:57.2ni	Macy (Houston) 57
9:00.0ni	Norris (McNeeseSt V) 61
9:01.3	Turner (SoIll) 61
9:04.8	Henderson (ArizSt V) 57
9:05.0n	Murphy (SanJose) 62
	Jenkins (SanDiego CC) 63

**THREE-MILE RUN**

13:38.6ri	Lawrence (Houston) 59
13:51.7	Macy (Houston) 57
13:56.8	Turner (SoIll) 61
13:57.7	Deubner (Stanford) 63
13:58.5	Norris (McNeeseSt V) 61

**SIX-MILE RUN**

29:59.9	Jackson (MarylandSt) 63
30:10.5n	Murphy (SanJose) 62
30:18.5n	Henden (Idaho) 61
30:19.8	Lawrence (Houston) 59
30:30.4n	Brown (MontSt V) 63

**120-YARD HIGH HURDLES**

13.7	Jones (EMich V) 57
13.8n	Anderson (Comp JC) 49
n	Gilbert (Win-Salem V) 56
13.9	Yang (UCLA) 60
14.0n	Triulzi (UCSB) 51
	Johnson (UCLA) 55
n	Rogers (Win-Salem V) 59
14.1n	Hearn (NCaRC V) 58
p	Moore (Nebraska) 60
	Le Blanc (NELaSt) 63

**220-YARD LOW HURDLES**

22.6	White (Harbor JC) 57
	Cooley (ACC) 58
22.7n	Frazier (SoCal V) 47
	Liggin (MarylandSt) 63
22.8	Styron (NELaSt V) 58
n	Miller (Colorado) 62
22.9	Stevens (TexSouth V) 63
n	Johnson (UCLA) 55
	Fischl (LongBeach CC) 57
	Curl (Grambling V) 61

**330-YARD INTERMEDIATES**

37.1	McIntosh (MontSt) 63
37.6	McKnight (NewMex V) 63
37.7n	Hawkins (ArizSt V) 63
	Peterson (Oxy) 63
37.8	Douglas (BYU) 63
n	Parker (BYU) 63

**HIGH JUMP**

7'1 $\frac{1}{4}$ "	Thomas (BostonU) 59
7' $\frac{5}{8}$ "	Dumas (Compton JC) 56
7'0"	Faust (Occidental) 60
	Burrell (LAVaL JC) 63
6'10 $\frac{3}{4}$ "	Hoyt (SoCal) 62
6'10 $\frac{1}{4}$ "	Steward (SMU) 56
6'10"	Ridgway (LamarT V) 61
p	Durley (Colorado) 62
6'9 $\frac{3}{4}$ "	Holding (ETexSt V) 51
6'9"	Clark (Utah V) 53
	Jackson (Win-Salem V) 63

**POLE VAULT**

15'8"	Sternberg (We h) 62
15'4"	Cruz (Villanova) 61
15'2 $\frac{1}{2}$ "	Brattlof (Rice) 62
15'3 $\frac{1}{2}$ "	Cramer (Wash) 60
15'1 $\frac{1}{4}$ "	Pennel (NELaSt V) 60
14'11 $\frac{3}{4}$ "	Brewer (SoCal) 58
14'10"	Fanucchi (Bakersf JC) 62
14'9"	Landstrom (Mich) 55
	Moro (Oregon) 62
14'8 $\frac{1}{2}$ "	Paquin (Oregon) 58

**BROAD JUMP**

26'1 $\frac{1}{2}$ "	Bell (Indiana) 55
25'9 $\frac{1}{2}$ "	Watson (Oklahoma) 60
25'9"	Stenius (LAsT) 63
25'7 $\frac{3}{4}$ "	Owens (OhioSt) 34
25'7"	Steele (SanJose V) 42
	Blanks (NewMex V) 61
25'6 $\frac{3}{4}$ "	Visser (Bakersfield JC) 59
25'6"	Clayton (PhilSmith V) 61
25'5"	Yang (UCLA) 60
25'4 $\frac{1}{4}$ "	Range (LAVaL JC) 56

**TRIPLE JUMP**

51'10 $\frac{3}{4}$ "	Samuels (Foothill JC) 62
49'8 $\frac{1}{2}$ "	Lawson (SanJose) 62
49'5"	Sharpe (WCheserSt) 55
49'3 $\frac{1}{2}$ "	Smith (Houston) 56
49'1 $\frac{3}{4}$ "	Dyes (NELaSt V) 60
49'1 $\frac{1}{2}$ "	Floerke (Kansas) 55
48'11 $\frac{1}{4}$ "	Koutonen (Mich) 48
48'11 $\frac{1}{4}$ "	Albans (NCaRU) 49
48'8 $\frac{3}{4}$ "	Fergus (SanJose) 63
48'7 $\frac{1}{2}$ "	Cooper (StJohn's) 59
	Johnson (Compton JC) 60

**SHOT PUT**

63'7"	Long (SoCal) 59
60'9"	Gubner (NYU) 61
58'3"	Mills (Foothill JC) 63
57'9 $\frac{3}{4}$ "	Davis (SoCal) 57
57'1 $\frac{1}{2}$ "	Smith (LongBeachCC) 63
56'8 $\frac{3}{4}$ "	Pace (LongBeach CC) 62
56'4 $\frac{1}{4}$ "	Korn (Manhattan) 59
55'11 $\frac{3}{4}$ "	Croasdale (Harvard) 62
55'9"	Inman (Oklahoma) 61
55'8 $\frac{3}{4}$ "p	Woods (SoIll) 62
<b>DISCUS THROW</b>	
187'5 $\frac{1}{4}$ "	Mills (Foothill JC) 63
179'1 $\frac{1}{2}$ "	Johnstone (Arizona V) 60
171'10"p	Lindsay (Oklahoma) 58
	Brown (Missouri) 62
171'8 $\frac{1}{2}$ "	Edwards (Fres CC) 60
171'6"p	Oerter (Kansas) 55
169'9"	Ridge (Reedley JC) 63
169'4"	Orday (Cerritos JC) 62
168'9 $\frac{1}{2}$ "	Thompson (Minnesota) 48
168'7"p	Pritchard (Oklahoma) 37

**JAVELIN THROW**

247'5"	Stuart (SanAna JC) 60
240'10 $\frac{1}{2}$ "	Stenlund (OreSt) 59
240'5"	Rautio (Nevada V) 61
234'0"p	Floerke (KansasSt) 62
233'2 $\frac{1}{2}$ "	Yang (UCLA) 60
231'0"	Tomlinson (SDCC) 59
	English (MtSAC JC) 60
229'4"	Thatcher (BYU V) 61
227'11"	Sikorsky (SoCal) 58
227'3 $\frac{1}{2}$ "	Christensen (Utah V) 61
<b>HAMMER THROW</b>	
199'11"	Lawlor (Boston U) 57
177'10 $\frac{1}{2}$ "	Blair (BostonU) 51
177'4"	Anagnostopoulos (Mas) 62
173'9"	Bailey (Harvard) 59
173'5 $\frac{1}{2}$ "	Styrna (NewHamp) 41

**440-YARD RELAY**

40.7	Baylor 60
41.1	Texas 56
41.2n	Abilene Christian 58
	San Jose State 60
41.3n	San Jose State 62
	San Jose State 63
41.5	Texas 51
n	Morgan State 53
	Texas 54
41.6	Houston 62

**880-YARD RELAY**

1:26.1	Occidental 58
1:26.2n	Texas 51
	Houston 58
1:26.4n	San Jose State 60
1:27.2	Southern California 60
	Abilene Christian 62
	Houston 63

**MILE RELAY**

3:10.1n	California 62
3:11.0n	Southern California 60
3:11.2n	Occidental 60
3:12.0	San Jose State 62
3:12.2n	New Mexico 60
3:12.6	Abilene Christian 62
3:13.9n	Texas 62
3:14.8	Abilene Christian 63
3:15.3	Abilene Christian 60
	Arizona 61
n	Rice 63

**TWO-MILE RELAY**

7:30.6	San Jose State 63
n	UCLA 63
7:36.9	Georgetown 63
7:37.5n	Occidental 60
7:37.7n	Occidental 58
7:40.1n	Southern California 57
7:40.4	UCLA 54
7:40.6	Iona 63
7:41.2n	Southern California 54
7:42.1n	Occidental 54

**FOUR-MILE RELAY**

17:11.0	Texas 63
17:17.4n	San Jose State 63
17:18.5	Miami, Ohio 63
17:18.7	Michigan State 63
17:19.1	Houston 62
17:24.2n	Oregon 61

**SPRINT MEDLEY RELAY**

3:20.9	California 55
3:23.2n	San Jose State 63
3:24.3	Texas 56
	Abilene Christian 63
3:24.8	Fullerton JC 60
	Abilene Christian 63

**DISTANCE MEDLEY RELAY**

9:57.0n	Texas 63
10:00.5	Houston 62
10:02.9	Houston 59
10:05.0p	Oklahoma 57

**100-METER DASH**

10.0	Jerome (Oregon) 60
10.3	Peacock (Temple) 34
	Davis (Salinas JC) 40
	Golliday (Northwestern) 51
n	Carr (ArizSt V) 62
n	Hanson (Kansas) 63

**200-METER DASH (TURN)**

20.7*	Hester (ArizSt V) 63
20.8	Robinson (Pas CC) 36
*	La Beach (Wisc V) 46
n*	Garton (ETexSt V) 59
n*	Saddler (TexSouth) 62
*	Roberts (NCaRC) 63

**400-METER DASH**

46.4	Rhoden (MorganSt V) 49
n	Mills (Purdue) 59
46.5	Mashburn (Okla V) 52
46.6	Rodriguez (PuertoR) 56
n	Plummer (NewMex V) 60

**800-METER RUN**

1:47.5n	Dupree (NewMex V) 60
1:49.6	Sandoval (LamarT V) 58
1:49.9	Woodruff (Pittsburgh) 36
1:50.4	Cushman (Kansas) 57
1:50.5	Kerr (Illinois) 57

**1500-METER RUN**

3:44.6	San Romani (Wichita) 60
3:45.5n	Wiggs (SoIll) 60
3:47.5	Sandoval (LamarT V) 58
	Burleson (Oregon) 59
3:49.2n	Villarreal (Texas) 56

**400-METER INTERMEDIATES**

49.7n	Southern (Texas) 56
9:09.0n	Lawler (ACC) 60
9:18.7	McMillen (Glend JC) 48
9:19.1n	Walker (Houston) 61
9:21.9	Mortenson (Oregon) 63
9:26.0	Macy (Houston) 57

**5000-METER RUN**

14:24.1n	Macy (Houston) 57
14:26.3	Norris (McNeeseSt V) 61
14:33.6	Henderson (ArizSt V) 57
14:38.2	Johansson (Purdue) 51
14:38.9	Jenkins (SD CC) 63

**10,000-METER RUN**

31:05.0n	Murphy (SanJose) 62
31:19.2	Jackson (MarylandSt) 63
31:35.5n	Lawrence (Houston) 59
31:44.0n	Elliott (Houston) 62
32:18.2	Ottey (MichSt) 32