

## EDITORIAL

Dare I mention it, but the first (and last) item we had from a female NUTS member appeared over 5 years ago! This issue includes a brilliant article by Carole Endersby which, it is hoped, will be followed by another on the use of stimulants (amphetamines, etc).

Members who require photocopies of back issues of NUTS Notes should send a list of their requirements to Dave Terry, 5 Grange Close, Heston, HOUNSLOW, Middx; enclosing 3p in stamps for every five issues.

I have copies of the following publications: enclose 5p for each please.

Austrian Yearbook 1970	..... 1	Norwegian Yearbook 1971	.....10
European Top 100 lists 1970	..... 3	CSSR All Time Women's lists	.... 4
World Record Evolution	..... 4		

The next issue of NUTS Notes will be published in October; please send your contribution to reach me by the end of September.

## MISCELLANY

§ As many of you will have seen (in the "Sunday Times") and heard (on the BBC Radio 4 programme "Now Read On") Peter Lovesey has achieved further fame: his first effort at crime fiction - the award-winning "Wobble to Death" - has had the film rights bought by Carl Foreman for Columbia and filming will probably start next year. Foreman, born Chicago 23 July 1914, directed "The Victors" and was scriptwriter for, inter alia, "High Noon", "The Bridge on the River Kwai" and "The Guns of Navarone". "The book", writes Peter, "has been an extraordinarily lucky one for me. Besides winning the £1,000 Macmillan/Panther Award and appearing in hard-back and paperback here, it has been published in America and translations are being made for editions in Finland, France, Germany and Japan". His latest work, "The Detective wore Silk Drawers" (Macmillan, £1.40) is highly recommended. The paperback rights have already been sold, as also have the US and French publishing rights!

§ Margaret Gould asks me to mention that if you phone her new home you should wait a couple of hours or so while she negotiates two flights of stairs.

§ Congratulations to Martin and Barbara James on the birth of Matthew Edward (23 June, 3.54 kg/7lb 13oz).

§ New ventures: Tom Pollak reporting on athletics for BBC Radio London and Dave Cocksedge pole vaulting. Under the guidance of a certain Brian Hooper the latter has reached 2.74 in training: his competitive debut is eagerly awaited.

WHAT'S IN A (COMMON) NAME? by Richard Szreter

According to the Penguin Dictionary of Surnames (by B Cottle), Smith is "easily the commonest surname in England and Wales", with Jones second ("notoriously the commonest surname in Wales alone", though), Williams third, and Taylor just "out of the medals" in fourth spot. (well, the last two may have slipped down since the count of 1853 quoted). But it's the Taylors that turn up trumps in the handsome new 1971 annual; among men anyway - women cheat by changing names, so I left them out of this exercise. Led by the indefatigable Dick, the Taylor clan have mustered a full score-but-one entries in the index, the Williamses notched up 14, the name of Jones appeared a dozen times, and there were barely 11 Smiths (no, I won't let them have the odd Smyth). An exact reversal of "form", in fact!

Not being satisfied with the size of the sample, I decided to look at three seasons at what seemed to be reasonable intervals of 3 years. The count in the 1964, 1967 and 1970 annuals revealed thereupon the following figures: Smith 33 times, Jones 43, Williams 36, Taylor 38. It's no easy

matter to beat the law of large numbers in its various manifestations, but it has been done this time.

I did not try to unearth the rarest name in the annuals - though if the NUTS members themselves should count, I always felt that the name of one R Szreter was a good claimant. But I reckoned (possibly) without the London telephone directory - a recent flip through the pages ineluctably revealed a certain E Szreter - next time I am in London I'll simply have to dial his/her number and ask if he/she knows, say, who was GB's second best 44+0yH man in 1959!+

+ Well, did you know it was Tom Farrell at 52.1? - Ed.

RECORD OF UK WOMEN IN INTERNATIONAL MATCHES by Pete Pozzoli

Performance analysis by event (5 or more appearances)

	A	W	PM	PO	%
<u>50m/60y/60m</u>					
D Arden-Slater	5	4	25	23	92.000
<u>100y/100m</u>					
J F Foulds-Paul	9	5	46	39	84.783
A Pashley	9	5	45	37	82.222
D Hyman	18	10	91	70	76.923
V Wild-Peat	7	3	35	26	74.287
J A Hall	5	2	25	18	72.000
V M Weston-Cobb	11	4	55	37	67.207
A D Neil	13	4	65	39	60.000
H J Armitage-Young	10	2	51	28	54.902
J A Smart	7	1	35	19	54.285
D Arden-Slater	10	0	50	21	42.000
D P James-Pascoe	5	0	45	9	36.000
<u>200m/220y</u>					
D Hyman	14	13	70	67	95.714
J F Foulds-Paul	5	4	26	24	92.300
V Wild-Peat	5	4	25	23	92.000
J E Scrivens	9	7	45	41	91.111
J M Simpson	5	4	25	22	88.000
S Cheeseman	8	5	40	34	85.000
J A Smart	6	1	30	19	63.333
M D Tranter	12	4	60	35	58.333
S Hampton-Pirie	9	1	45	25	55.556
C J Carter-Bailey	5	1	25	12	48.000
M E Hiscox	6	0	30	13	45.500
D Arden-Slater	10	0	50	20	40.000
<u>400m/440y</u>					
A E Packer-Brightwell	5	3	25	21	84.000
L B Board	7	5	35	29	82.857
J Dunbar-Sorrell	7	5	35	29	82.857
D A Watkinson	6	3	30	23	76.667
E J Grieveson	15	6	75	55	73.333
J M Simpson	6	1	30	17	56.667
<u>800m/880y</u>					
V M Ball-Winn	7	7	35	35	100.000
D S Leather-Charles	14	11	70	64	91.428
J W Buckmaster-Jordan	16	12	80	71	88.750
P B Lowe	12	6	60	46	76.667
S J Taylor-Carey	7	4	35	26	74.285
A R Smith	11	6	55	40	72.727
B Loakes-Smith	5	1	25	15	60.000
P E M Green-Perkins	15	4	75	43	57.333
J Page-Allison	7	0	35	17	48.571
I A E Oliver-Chapman	8	0	40	19	47.500
P J Cockcroft-Piercy	11	1	55	24	43.636

(to be continued)

## THE USE OF ANABOLIC STEROIDS IN ATHLETICS by Carole Endersby

There has been a good deal of controversy recently concerning the advisability of banning the use of steroids in athletic training. This article aims to give a general picture of our present state of knowledge of the substances involved, so that one may, perhaps, be able to make up one's own mind more easily.

It was realised in the time of primitive man that castration in boyhood prevented the occurrence of puberty. In 1771 John Hunter induced male characteristics in the hen by transplanting testes from the cock (1) but the discovery that the testis is a secretory gland is usually credited to Berthold who in 1849 showed that the transplant of testes into castrated roosters prevented the typical signs of castration. Many attempts were made to isolate the active testicular substance, largely because of the popular belief that failure of testicular function was the cause of the symptoms of old age.

Before the chemistry of the male sex hormones could be elucidated it was necessary to develop methods of measuring the amounts of hormone present in biological samples. A widely used procedure was the determination of hormonal activity in terms of the growth response of the capon's comb; in fact, the method was used as a guide in the chemical isolation of active substances from urine. Butendant (2) was the first to succeed in this field and in 1932 he proposed a structural formula for the hormone which he had isolated that was later confirmed by synthesis in the laboratory (3). It became apparent that extracts of the testes differed in chemical and physiological characteristics from the substance that had been isolated from urine; for example, testicular extracts that were of equal potency to the urinary extract in promoting growth of the capon's comb had a much greater effect on the seminal vesicles of castrated rats. Active testicular extracts were prepared as early as 1927 by Loewe (4) and the substance was isolated in crystalline form by Laquem (5) in 1935. The chemical structure was soon elucidated and the hormone was synthesised by Ruzicka and Wettstein in 1935 (6): this hormone was called testosterone.

A great many other substances with similar activity then became known; some were isolated from ovaries and adrenal glands and others were prepared synthetically. All these substances are classified chemically as steroids. Their molecules are mostly composed of the same groups of atoms but each is characterised by certain special groups of atoms substituted at particular places in the molecule. These substances, related in structure and function to testosterone, are collectively known as androgens and tend to produce the same range of physiological effects (androgenic actions) but differ in the extent to which they produce one action rather than another.

### Androgenic actions

The androgens are responsible for the changes that transform a boy into a man at puberty, and for the maintenance of these secondary sexual characteristics. They also influence testicular function by two means: indirectly through their influence on pituitary hormone output and directly on the seminiferous tubules of the testis, stimulating production of spermatozoa. The pituitary gland lies at the base of the brain and secretes hormones which act on the testis: one stimulates the cells (seminiferous tubules) in which spermatozoa develop and another acts on a different population of testicular cells (Leydig cells) causing testosterone to be released. The testosterone circulating in the blood then inhibits the pituitary hormonal output so that the appropriate balance of hormones is attained - an example of a negative feedback mechanism. This is, however, a somewhat simplified representation of the system.

### Anabolic actions

Androgens were found to produce a retention of nitrogen in the body when urinary extracts were injected into castrated dogs. Soon afterwards, in 1938, Papanicolaou and Falk (8) showed the skeletal muscles of male guinea pigs to be much larger than those of the female, and the difference abolished by removal of the testes. Injection of testosterone into the female or the castrated male caused pronounced muscular development, showing that the

large muscles of the male are dependent upon androgens. The nitrogen retained by androgens (along with other elements) is necessary for protoplasm to be formed, and so for muscle tissue to be built up, and this is known as an anabolic effect.

All the steroids synthesised so far produce both androgenic and anabolic effects, although one type of action is often dominant. Since the anabolic actions can be therapeutically useful, the aim is to produce steroids with potent anabolic effects and negligible androgenic actions.

#### Side effects

Steroids with anabolic actions are used clinically in patients with growth disorders and to promote tissue growth after illness; they are also used in women suffering from osteoporosis (excessive porousness of the bones due to a decrease in oestrogen production after the menopause), and in the treatment of cancer of the breast. However, apart from their therapeutic effects, the steroids also produce unwanted side-effects. In women, all androgens are likely to produce masculinisation, which is initially manifested as acne, the growth of facial hair and hoarsening or deepening of the voice. These symptoms will slowly subside if treatment is discontinued but otherwise there may also develop the male pattern of baldness, excessive body hair, prominent musculature and veins and increased growth of the clitoris - a largely irreversible phenomenon.

Retention of water in association with sodium chloride usually occurs after administration of an androgen, and accounts for some of the weight gain in short-term treatment.

Many of the steroids cause a type of liver damage known as cholestatic hepatitis, jaundice being the principal clinical feature. This is due to an accumulation of bile in the smaller ducts of the liver and to minor changes in the cells. As androgens are broken down in the liver, this cholestasis will result in an accumulation in the body of the steroid and its breakdown products. For this reason treatment often takes the form of short courses of steroid interrupted by intervals without the drug.

Steroids can also produce undesirable effects by changing the amounts of enzymes in the blood and of the proteins necessary to transport the thyroid hormone around the body. An increase in athletic performance is believed to occur as a result of treatment with a steroid with anabolic actions, accompanied by a high protein diet (to supply the constituents for new muscle tissue) and training. However, there is some dispute over this fact since the experiments carried out to test the theory have often been poorly designed.

Fowler (9) observed no effect of the anabolic steroids on physical performance of young, healthy men, even in a group taking extra exercise. But the exercise may have been less strenuous than athletic training, and so does not present a strictly comparable situation.

The picture is obviously not yet clear but it is the balance of the increase in athletic performance weighed against the possible side effects which must determine one's decision on whether or not steroid treatment should be allowed in sport. (This is from the purely physiological viewpoint; moral issues are obviously equally important.)

A further difficulty is that, even if anabolic steroids are banned, it is practically impossible to enforce the rule. Since the effects on muscular development are prolonged, the athlete can stop treatment weeks before a competition so that no drug will be detected. Furthermore, only a limited number of the steroids can at present be measured, and this involves an expensive and time-consuming technique.

#### References

- (1) see Forbes, T R Yale J. Biol Med 19, 955 (1947)
- (2) Butendant, A Z. angew Chem 44, 905 (1931).
- (3) Rusicka, L et al Helv chim Acta 17, 1395 (1934)
- (4) Loewe, S & Voss, H E Klin Wschr 9, 481 (1930)
- (5) see David, K et al Hoppe-Seyler's Physiol Chem 233, 281 (1935)
- (6) Rusicka, L & Wettstein, A Helv chim Acta 18, 1264 (1935)
- (7) Kochakian, C D J Nutr 10, 437 (1935)
- (8) Papanicalaou, G N & Falk, E A Science, NY 87, 238 (1938)
- (9) Fowler J App Physiol 20, 1038 (1965)

Age records are often published for Junior age-groups, but this may be the first time such records have been published for U.K. athletes for other ages. I would thus welcome amendments to the ensuing lists which I hope to continue in future issues of NUTS Notes.

**100 YARDS :**

15:	10.0	D.H. Cliver	8.5.50
16:	9.9	Ivonne Kirkpatrick	25.7.59
		Raymond Legg	23.7.63
		Barry Ellis	3.8.64
17:	9.7	Chris Cheetham	22.6.63
18:	9.6	Peter Radford	14.6.58
		Len Carter	27.5.61
19:	9.4	Peter Radford	30.5.59
20:	9.4	Peter Radford	28.5.60
21:	9.5	Lynn Davies	16.5.64
22:	9.5	Alf Meakin	27.5.61
		David Jones	4.12.62
		Lynn Davies	30.5.64
23:	9.5	David Segal	29.4.60
		Peter Radford	22.9.62
24:	9.6	David Segal	27.3.61
		Peter Radford	10.6.64
		Barrie Kelly	21.7.65
25:	9.5	Menzies Campbell	13.5.67
26:	9.6	David Segal	13.4.63
27:	9.6	Barrie Kelly	31.8.67
		Menzies Campbell	29.5.68
28:	9.5	Ron Jones	27.7.63
29:	9.8	Ron Jones	14.7.64
30:	9.5	Ron Jones	19.6.65
31:	9.6	Ron Jones	25.6.66
32:	9.6	Ron Jones	3.6.67
		David Segal	26.6.69
33:	9.6	Ron Jones	27.7.68

**200 METRES :**

13:	23.9	Wayne Morgan	.70
14:	22.7	Edward Osborn	.59
15:	22.1	John Lockwood	.36
		John Harrison	17.7.65
16:	21.6	John Harrison	8.7.66
17:	21.1	David Jenkins	2.5.70
18:	20.8	Peter Radford	14.9.58
19:	20.7	Ralph Santhorpe	15.10.68
20:	20.4	Peter Radford	28.5.60
21:	20.7	Martin Reynolds	2.8.70
22:	20.9	Robbie Brightwell	8.7.62
23:	20.9	David Jones	3.10.63
		Menzies Campbell	4.7.64
24:	20.8	Howard Davies	27.9.63
25:	20.9	Menzies Campbell	25.3.67
26:	20.7	Menzies Campbell	10.6.67
27:	20.9	Dick Steane	19.8.67
28:	21.0	Dick Steane	23.6.68
29:	20.6	Dick Steane	15.10.68
30:	21.2	Brian Shenton	15.9.57
31:	21.8	Ken Jones	2.9.53
32:	21.6	Ron Jones	24.9.66
33:	21.3	Ron Jones	25.4.68
34:	-		
35:	22.0	Ron Jones	19.9.70
36:	21.9	Ron Taylor	15.8.70

**400 METRES :**

13:	53.5	John Vernon	.66
		Stephen Simson	23.7.69
14:	51.4	Craig Grainger	14.5.70
15:	49.5	John Harrison	17.8.65
16:	48.3	Peter Beaven	16.5.70
17:	46.5	David Jenkins	14.9.69
18:	46.4	David Jenkins	1.5.71
19:	45.7	Adrian Metcalfe	2.9.61
20:	46.1	Robbie Brightwell	5.9.60
21:	45.9	Robbie Brightwell	2.9.61
		M. Winbolt Lewis	17.10.68
22:	45.6	Robbie Brightwell	14.7.62
23:	46.2	Robbie Brightwell	3.10.63
24:	45.7	Robbie Brightwell	18.10.64
25:	46.0	Tim Graham	19.10.64
26:	46.6	John Robertson	24.8.68
27:	46.5	John Wrighton	1.8.60
28:	46.3	Tim Graham	15.7.67
29:	46.7	Malcolm Yardley	6.6.70
30:	47.5	Mike Wheeler	7.8.65
31:	47.5	John Wrighton	5.9.64
32:	49.2	Mike Fleet	20.4.70
33:	48.8	Mike Fleet	30.5.71
34:	48.3	Bill Roberts	20.7.46
35:	-		
36:	48.5	Bill Roberts	3.7.48

**100 METRES :**

15:	11.0	David Martin	10.8.69
		David Artley	29.8.70
16:	10.7	Robert Munnis	20.6.70
17:	10.8	David Jenkins	16.5.70
18:	10.3	Peter Radford	13.9.58
19:	10.3	Peter Radford	23.5.59
		Martin Reynolds	29.6.68
20:	10.3	Peter Radford	18.6.60
21:	10.3	David Jones	30.4.61
		Martin Reynolds	12.9.70
22:	10.4	A. McCorquadale	31.7.48
		Peter Radford	12.9.62
		Don Halliday	2.5.70
23:	10.3	Berwyn Jones	2.10.63
		David Jones	3.10.63
24:	10.3	Roy Sandstrom	19.3.56
25:	10.2	Menzies Campbell	20.5.67
26:	10.2	Menzies Campbell	27.5.67
27:	10.3	Barrie Kelly	2.7.68
28:	10.3	Barrie Kelly	4.10.68
29:	10.3	Barrie Kelly	26.8.69
30:	10.5	Barrie Kelly	31.8.70
31:	10.7	Ron Jones	10.10.65
32:	10.5	Ron Jones	2.7.67
33:	10.3	Ron Jones	29.6.68
34:	10.4	Ron Jones	13.10.68
35:	10.3	Ron Jones	26.8.69
36:	10.9	Ron Taylor	15.8.70

+ See NUTS Notes Vol 7 No4 for earlier compilation by Malcolm Warrington

1970 Rankings Men

100m: Add 10.8 Larry Collins; 10.9 Ian Carmichael  
 200m: Add 22.2 Gordon Muir 22.2w Mike Bathgate  
 400m: Add 47.4 David Walker ( ) 7 Jun Billings  
 Amend 49.2 Nigel Crowley (From 49.6)  
 800m: Amend 1:51.2 Alan MacDonald; 1:53.3 Mike Wingfield  
 1500m: Amend 3:52.8 Rees Ward  
 3000m: Add 8:15.2 Michael Wood (8:54.2) (2) 18 Dec Long Beach  
 8:17.8 Dick Wedlock  
 5000m: Add 14:21.6 Dick Wedlock  
 10000m: Add 30:18.0 Raymond Smedley; 30:20.0 Kenneth Grant;  
 Amend 30:31.8 Chris Reed (J)  
 3 kmSt: Amend 9:24.6 Rod Sibson (J); 9:25.6 Alastair Johnston  
 Add 9:27.8 Wayne Saunders; 9:32.0 John Ferguson;  
 9:39.0 Bryce Morrison; 9:42.0 Ian Macmillan.  
 110mH: Amend Hemery 13.4 Official; Paseo 13.6 Official. in Zurich races  
 Add 15.9 Ian Grant  
 400mH: Add 56.4 Hugh Stevenson; 56.6 Roger Spreckley; 57.1 Harry Smith  
 HJ: Amend 1.80 Joseph Reece; John Channon; Rose (Y); Hunte (Y)  
 Add 1.80/5'11 T.W. Black  
 LJ: Amend 7.23/23'8 1/2w Graham Paterson ( ) 25 Jun Uxbridge (from 6.99)  
 Amend 7.20 Samuel Ogbannaya; 6.96 Alex W. Robertson (from 6.81w)  
 TJ: Amend 13.87 William Haugh; 14.17 David Johnson  
 Add 15.22w Spinks: best legal 15.01 (q) 6 Jun Leicester  
 Amend 13.92 Alex W. Robertson (from 13.79); 14.83 Howard-Mills  
 Delete 13.84 Maven  
 SP: Amend 14.02 John Scott (from 13.70); 13.56 Terence Mann  
 Add 13.62 44'8 1/2 Bruce McEvan; 13.34 43'9 1/2 Lawrence Bryce.  
 Amend 13.25 Geoffrey Wilson  
 Add 13.56 44'6 Tony Gummerson (V)  
 DT: Amend 42.60 139'9 Daniel Maloney (from 40.66); 41.08 Baranowski  
 HT: Amend 44.82 Stewart Togher  
 JT: Amend 57.36 Michael Cheesemure  
 Dec: Note 6313 Ian Grant: Composition:  
 (11.1 6.44 9.42 1.82 51.4 15.9 35.00 3.00 47.95 4:44.2)  
 Amend 5066 Geoff Tyler 10M: 51:06.0 Don Macgregor  
 Marathon Add 2:29:00 Kenneth Grant Alastair Wood

Women

100m: Amend 11.9 Janet Stroud ( ) 28 Jun Newham (From 12.0)  
 Add 12.0 Jean Jamieson Amend: 12.2w June Rowell  
 200m: Add Short Track (199m) and doubtful timing: 29 Aug Castleford:  
 1. Dawn Webster (I) 23.6; 2. Karen Walker (I) 24.5  
 3. Anne Milner 24.6; 4. Susan Howell 25.0  
 1500m: Add 4:47.2 and 4:45.41 Pat Slyde  
 1 Mile: Add 5:16.0 Susan Carnegie  
 2000m: Add 6:22.27 Gloria O'Leary; 6:23.6 Pat Winter 14 Oct C. Palace  
 LJ: Add 5.69 18'8 Liz Sutherland; 5.46 17'11 Sally Ledger  
 SP: Amend 11.88 38'11 1/2 Jackie Elsmore (from 11.68)  
 DT: Amend 44.08 Jackie Elsmore

INDEX

Men

In addition to the above note the following amendments:

ADAMS, M.P. (22.10.40); BARANOWSKI, B. (15.9.22); BOGGIS, J.L.A. pb 5km:  
 14:17.8-69; CHANNON, J.H. (11.11.43); CHEESEMURE, M. (8.7.47); EVANS, R.  
 (20.4.47) Cardiff AAC 3km St 9:07.2; ELGIE, A.G. pb 48.6-62; JENKINS, M.  
 (16.3.53); JOHNSON, D.V. - TJ 14.17 - (11.5.46); KIRKERIDE, J. (24.3.47);  
 Add: KNIGHT, D. Achilles LJ: 7.05w/6.96 (NOT Knight, D.B.); LEM, D.B.W. pb  
 1M 4:04.9-66; LERWILL, A. (15.11.46); MACGREGOR, D. pb 5km 14:15.8-69;  
 MEREDITH, K. (12.12.48); NUSSEY, S.S. (27.1.50); OGBANNAYA, S.O. (17.7.44);  
 PATERSON, G.A. (29.5.46); REECE, J. (20.2.49); ROSE, A. (22.2.53); ROBERTSON,  
 A.C. pb Dec 5793-68; Add: SAUNDERS, W. (7.10.50) 3km St, 9:27.8; WILLIAMS, R.  
 RAF; WILSON, G. - SPI 13.25 a (16.8.45); Delete STANDEN - was Standing.

Women: Note De Gregory - Bahamas; GREEN, J.A. (19.9.43) 800, 2:16.8