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الافتتاحية

البطولة الخامسة والثلاثون لألعاب القوى بفنلندا

Les articles publiés dans cette revue ne reflètent pas nécessairement l'opinion du CISM.
The articles published in this review do not necessarily reflect the opinion of the CISM.
Since the creation of CISM, one of the major concerns has been to promote the development of sports activities in all the member nations. As early as 1951, CISM took an orientation that made it possible to set up a technical assistance in favour of each and all. This materialized on the field by the first technical and scientific training clinics: 1954 (Bosen - Sweden), 1955 (Mafra - Portugal), 1957 (Forimia - Italy) which were the first steps. The need for the creation of a technical body in charge of the preparation, coordination and execution of these technical clinics soon came to the surface. The Academy was thus officially created in 1957. CISM experienced a period of expansion and sports cooperation with the developing countries that followed. Technical clinics were organized outside Europe, Tunisia and Turkey in 1969, Morocco in 1970, Brazil, Ghana and Syria in 1972, Argentina and Zaire in 1973, Cameroon in 1975, Qatar in 1977, Iran in 1978 and Mali in 1980. The objective is to go into the field with the full knowledge of the needs of each nation, linked to the local possibilities and to carry out simple projects in accordance with the realities specific to each nation. It would be indeed completely wrong to transpose the educational or physical training systems of the industrialized countries in the less favoured countries, regardless of their particularities and national traditions. In this respect and following the Olympic solidarity movement, "CISM solidarity" foundation was created in 1975. The foundation with its own financial resources contributes to the action of the International Military Sports Council, helping reach the objectives, namely in the field of technical, scientific and medical assistance programmes. After a promising start, solidarity in favour of each nation started to collapse and other solutions were searched for.

Through the creation of the Permanent Commission for partnership in Paramaribo in 1988, CISM wanted to establish new financial means to revive the technical assistance programme. However, the key body, the main spring of the solidarity programme remains the Academy. After searching at random for a functional and effective structure, CISM has just developed a structure that should be functional since it includes the four commissions involved, the recently created Commission for Sports Medicine, the Commissions for Sports, Finances and Information. With such a structure the CISM Academy will be run by the board of directors of the Academy comprising six members i.e. the president of CISM, the secretary general and the presidents of the four commissions. Modeled on the bureau of the Academy of the Olympic Committee, the Academy should fulfill its task through the programme of solidarity. However, the new structure can only work if all the information collected on the required technical assistance is sent to us in due course by the countries - mainly the less favoured countries so as to enable us to include it in our three-year middle-term plan. It should at least reach us soon enough to be submitted to the new board of directors, be examined by the Executive Committee and be ratified by the General Assembly. The financial means are now available thanks to our partnership programme. Regrettably enough, the lack of requests from our delegations hampered our actions in favour of solidarity that only covered an amount of 230,000 BF and 200,000 BF in 1988 and 1989 respectively. Thus, the success of the solidarity programme depends on the realization of each nation starting with the member nations become aware of this. Our efforts for the full realization of solidarity will only be successful if our action is coordinated.

Lt-Col. François Pilot, Secretary General

FOR A MORE RESPONSIBLE POLICY OF SOLIDARITY
Le 35e Championnat d’Athlétisme
Kajaani (Finlande)
24 - 31 juillet 1990

Texte: Lt-Col. W. Libbrecht

Kajaani, petite ville industrielle du sud de la Finlande, perdue au milieu des forêts et des lacs finlandais, a accueilli le 35e championnat mondial militaire d’athlétisme du 24 au 31 juillet 1990. La Finlande organisait ainsi ces championnats pour la troisième fois, les éditions précédentes remontant à 1971 et 1978, et ces derniers auront été marqués par quelques hauts faits saillants :

— la participation de 27 nations, égalant presque le record de Warendorf (28 nations participantes);
— l’organisation d’un très haut niveau technique;
— de très bonnes performances avec l’établissement de nouveaux records CISM : le 100m, le saut à la perche et le lancer du javelot dans les compétitions masculines, le 800m et le lancer du poids dans les compétitions féminines.

De même, les compétitions féminines qui connaissent un premier championnat féminin officiel en 1989 ne recueillent qu’un succès mitigé avec trois pays participants. Un nouvel effort de promotion du sport doit être fait dans ce domaine.

Il est également à remarquer que la répartition des médailles fut très large. Pas moins de seize pays sur les 23 officiellement en compétition recueillirent des médailles.

L’organisation

En organisant ces championnats, la Finlande renouvela avec ses riches traditions de nation organisatrice de championnats internationaux d’athlétisme. Elle peut s’enorgueillir d’avoir organisé les Jeux Olympiques en 1952 à Helsinki, théâtre également des championnats d’Europe 1971, de la Coupe d’Europe 1977 et des premiers championnats du monde en 1983. Depuis plus de deux ans, la Brigade militaire de Karu prépara ces championnats avec ardeur. Le Général Ilkka Halonen, commandant de la région militaire du nord de la Finlande et le Colonel Pentti Vuolanto, président du comité organisateur, ont tout mis en œuvre pour faire de ces championnats une grande fête du sport militaire avec la collaboration de Kauko Palvatinen, chef de la délégation finlandaise du CISM, toujours à l’affût du moindre détail tout au long de la compétition. Plus de deux cent officiers de la fédération finlandaise allaient officier en permanence pendant les quatre jours de la compétition. La ville de Kajaani participa à titre de sponsor à la réalisation de ce championnat. La collaboration entre les forces armées, les autorités locales et la fédération aboutit à un succès total, le niveau technique atteignant celui d’une compétition d’envergure mondiale.

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Les participants

Le chiffre, presque record, de 27 nations fut atteint. À côté des nations traditionnelles, on releva la présence ou la réapparition de nouvelles nations (Bolivie, Égypte, Grèce). Deux pays participèrent hors compétition : la République Démocratique d’Allemagne et l’Ouganda tandis que le Burkina Faso se pointait en observateur. Il est cependant regretter que les pays fassent la loi lors des championnats du CISM de cross-country tels que l’Algérie, le Maroc, le Portugal boudent la compétition d’athlétisme.
Lee Evans, champion olympique sur 400m à Mexico et ex-recordman du monde 43'' 86 pendant plus de vingt ans, s'est reconvertis comme entraîneur de l'équipe de Qatar.

L'Autrichien Fehringer, nouveau champion et recordman à la perche.

La tribune officielle lors des compétitions.
Les compétitions

Les courses
Les épreuves du sprint furent dominées par les athlètes du Golfe. Le vainqueur du 100m, l'Américain Conaway, a rompu le record du CISM en 10,18. Le 200m a été remporté par un autre Américain, Charlie Allen, qui a établi un nouveau record du CISM en 20,19. La course du 400m a été remportée par un athlète de l'Armée de l'Air, qui a établi un nouveau record du CISM en 44,20. Les courses de 800m et 1500m ont été remportées par des athlètes d'autres pays, notamment l'Iran et l'Irak.

Les compétitions dames
Vu le nombre limité de nations participantes, le championnat ne pouvait être reconnu comme championnat officiel. Les performances étaient cependant de bonne qualité, notamment pour l'Américaine Conaway qui a établi un nouveau record du CISM en 200m et 210m. La Belge De Leeuw a remporté le lancé du disque avec 15,95m. Les autres championnes, la Belge Karetten Mier, huit au lancer du disque (6m 19) et la Thaïlandaise Siripon au lancer du disque (11,78m) ont établi de nouveaux records CISM non montrables, les vents soufflant au-delà des limites permises (2m).

Aspects socio-culturels
Pendant toute la duree du championnat, une exposition photographique a été organisée. Cette exposition, intitulée "Le sport dans l'histoire", a montré de beaux exemples de compétitions sportives de différentes époques et pays. Les photos étaient présentées sur divers supports, notamment en noir et blanc et en couleur. Les visiteurs ont pu apprécier les performances et les moments historiques de ces compétitions sportives.

En marge de la compétition
La réunion du CTP
Une réunion de la commission technique permanente a eu lieu après la fin du championnat. Les membres de la commission technique, représentant les différents pays participants, ont discuté des performances et des résultats des athlètes. Ils ont également échangé des idées et des suggestions pour améliorer les compétitions et les événements futurs.

Les sprints
La meilleure performance a été enregistrée par l'Américain Frasier, qui a établi un nouveau record du CISM en 10,18. Les autres concurrents ont également démontré un très haut niveau de performance. En particulier, le Belge De Leeuw a établi un nouveau record du CISM en 210m, et la Belge Karetten Mier a remporté le lancé du disque avec 15,95m.

Les lancers

Les compétitions de lutte furent toujours très populaires au sein de l'armée finlandaise.
Le départ d'un championnat de ski de fond

Une compétition de lancement de poids aux abords des logements

La Finlande, première nation dans la discipline du javelot.

La Finlande garde une longue tradition dans la discipline du javelot. À travers les décennies, ils remportent lors des Jeux Olympiques dans la catégorie hommes:
- 8 médailles d’or
- 7 médailles d’argent
- 6 médailles de bronze

Dans la catégorie dames:
- 2 médailles d’argent


La famille Kinnunen au grand complet

La séance académique

Lors de la journée culturelle, une visite fut organisée à l’Institut des Sports de Vuokatti. Au cours de cette visite, une séance académique fut organisée avec comme conférencier Taariikka, président du comité olympique finlandais et de la Fédération nationale d’athlétisme. Il y développa le thème de « la Finlande, nation sportive par excellence ».

Au cours de sa conférence, il fit l’apé Roger de la Finlande qui a travers les excellents résultats sportifs obtenus lors des différentes compétitions internationales, il a ainsi contribué à renforcer l’identité nationale et ses valeurs au monde entier. La popularité de l’athlétisme et du ski de fond se situe dans cette rencontre dans les différents pays de la CEE est un facteur important pour la médiation de ces sports.

L’organisation du sport en Finlande est également très spécifique. Il n’existe pas de Ministère des Sports. Seul existe au niveau du Ministère de l’Education nationale un département des sports et de la jeunesse. En fait, toute la responsabilité de l’organisation sportive est en charge de la population à travers les provinces et les municipalités qui créent elles-mêmes leur propre structure sportive. Ceci signifie que le sport finlandais est organisé à 99% sur base du bénévolat et que le financement du sport est presque entièrement à charge des clubs. Les structures qui vont à l’encontre des tendances actuelles du management professionnel rencontrent l’agrément de la population finlandaise qui très jeune s’investit dans des activités de dirigeant de club tout en continuer la pratique du sport. Le sport est un mode de vie normal qui fait dire que la population finlandaise riche de cinq millions d’habitants compte cinq millions de sportifs.

2 - Mariage dans la ville du bonheur

3 - Une compétition de lancer de poids aux abords des logements

4 - La famille Kinnunen au grand complet

5 - Un bal du ski de fond
35th world track & field championship — Kajaani, Finland from 27 to 31 July 1990

Participating countries:
(24): Finland, Germany FR, Saudi Arabia, Austria, Bahrain, Belgium, Bolivia, Korea, Egypt, United States, France, Greece, Ireland, Italy, Kuwait, Luxembourg, Nigeria, Pakistan, Netherlands, Qatar, Senegal, Sweden, Thailand, Tunisia.

Observer country: Burkina-Faso

Not competing countries: Germany DR, Uganda

Female participation: Belgium, United States, Thailand

Official CISM Representative: Lt-Colonel Fr. Pilot (Luxembourg)

PTC President: Lt-Colonel G. Gola (Italy)

Number of participants:
- athletes: 277
- officials: 101
- total: 378

Results

Men

100 m
1. T. Mankaoo (QAT) 10'18" sec (*)
2. Théophile (FRA) 10'18" sec
3. J. Khaled (QAT) 10'18" sec

400 m
1. J. Ismail (QAT) 45'08" sec
2. A. Atmeh (ISR) 45'09" sec
3. J. Fischer (BEL) 45'11" sec

1,500 m
1. C.T. Boye (DEN) 3'48"04 min
2. G. Van Geyte (BEL) 3'49"12 min
3. M. Sulman (QAT) 3'49"56 min

200 m
1. J. Khaled (QAT) 20'67" sec
2. C. Puggioni (ITA) 20'68" sec
3. W. Wright (USA) 21'11" sec

800 m
1. C.T. Boye (DEN) 1'53'74" min
2. F. Appolline (FRA) 1'54'53" min
3. T.K. Eyrus (KOR) 1'55'75" min

5,000 m
1. A. Ibrahim (QAT) 14'07'58" min
2. A. Melkhi (TUN) 14'08'94" min
3. A. Al Qahani (QAT) 14'10'45" min

10,000 m
1. V. Rousseau (BEL) 28'38'28" sec
2. S. Astrup (DEN) 29'01'59" min
3. M. Mohamad (KUW) 29'06'98" min

400 m hurdles
1. O. Hense (FRA) 52'07" sec
2. E. Schueller (FRA) 52'04" sec
3. A. Guyan (BEL) 51'18" sec

3,000 m steeple
1. F. Boocock (TUN) 8'46'17" min
2. B. Byde (USA) 8'47'11" min
3. A. Al Douri (YEM) 8'48'51" min

Relay 4 x 100 m
1. Thailand 40'14" sec
2. Italy 40'38" sec
3. Qatar 40'51" sec

Marathon
1. E. Hellebuyck (BEL) 2h30'26"
2. K. Song Joo (KOR) 2h30'37" sec
3. M.S. Rahman (TUN) 2h31'10" sec

Long jump
1. R. Verbeke (FRA) 7'78" sec
2. D. Defos (FRA) 7'76" sec
3. M. Rahman (TUN) 7'76" sec

High jump
1. H. Beyer (FRA) 2.21 m
2. R. Ferrari (ITA) 2.19 m
3. A. Al Shab (QAT) 2.18 m

Shot put
1. A. Douschis (FRA) 17.60 m
2. M. Kostmen (FIN) 17.56 m
3. B. Sad (QAT) 17.28 m

Javelin
1. L. Laalaban (FIN) 83.36 m (*)
2. J. Kinnunen (FIN) 78.10 m
3. C. Bertomon (FRA) 73.78 m

Ladies

100 m
1. R. Sorpe (THA) 11'28" sec
2. E. Masenbou (BEL) 11'29" sec
3. A. Masenbou (BEL) 11'31" sec

Long jump
1. E. Masenbou (BEL) 5.10 m
2. A. Masenbou (BEL) 5.06 m
3. R. Garnett (USA) 5.03 m

(*) New CISM record

110 m hurdles
1. R. Lherminier (ITA) 13'05" sec
2. M. Profit (USA) 14'11" sec
3. L. Aronson (FRA) 14'12" sec

Relay 4 x 400 m
1. FRA 3'19'08" min
2. Italy 3'19'35" min
3. Qatar 3'21'12" min

20 km walk
1. M. Ochien (ITA) 1h34'31" sec
2. M. Piatet (ITA) 1h39'44" sec
3. J. Broussau (FRA) 1h40'59" sec

Triple jump
1. P. Min Sco (KOR) 16.06 m
2. D. Bouthine (FRA) 16.17 m
3. A. Stamm (AUS) 16.48 m

Pole vault
1. H. Fibelg (AUT) 5.00 m (*)
2. M. Zanetti (ITA) 4.95 m
3. T. Koyasu (JPN) 4.90 m

Discus
1. M. Martino (ITA) 19.06 m
2. C. Dethof (FRA) 18.62 m
3. O. Takanaka (JPN) 18.53 m

Hammer
1. E. Sgricci (ITA) 70.64 m
2. C. Dethof (FRA) 66.44 m
3. L. Asakura (JPN) 58.88 m

Shot put
1. R. De Leeuw (BEL) 15.66 m (*)
2. E. Frees (BEL) 13.38 m
3. R. Garnett (USA) 9.07 m

(*) New CISM record
Depôt de gerbe au cimetière militaire

L'OLAO et l'athlétisme

L'Office de liaison d'Afrique de l'Ouest (OLAO) qui regroupe treize nations au sein du CISM (Burkina Faso, Côte d'Ivoire, Gambie, Ghana, Guinée Equatoriale, Guinée R., Mali, Niger, Nigeria, Sierra Leone, Sénégal, Togo) multiple ses activités et championnats régionaux. Sont déjà planifiés pour 1991: le cross-country, la boxe, le handball, le tir, le football et le volley-ball. Actuellement un premier championnat d'athlétisme est envisagé.

Sergent Boye


Les sélections

1. 800 m: (1) K. Manenti (Belgique) 1:54.34. (2) K. Komna (*Côte d'Ivoire) 1:54.80. (3) M. Sayed (Libye) 1:55.33.

2. 1500 m: (1) K. Manenti (Belgique) 3:16.15. (2) M. Sayed (Libye) 3:19.45. (3) K. Komna (*Côte d'Ivoire) 3:22.02.

Le Sénégalais Boye, double champion sur 800 et 1500 m en compagnie du chef de délégation et entraineur national, le capitaine Sarr.

6. Les sportifs sont de 800 m à 1500 m - Cell. 109, 200 et 210 - chef de délégation et ministre du sport.

7. Numéro de téléphone de nouveau numéro.
# Athlétisme — RECORDS — Tracks and Field

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<td>17’97’64</td>
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<td>Poids</td>
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<td>198 M</td>
<td>Randy SANDINS</td>
<td>USA</td>
<td>23’1’72</td>
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<td>Discus</td>
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<td>180 M</td>
<td>Jürgen SCHULT</td>
<td>GDR</td>
<td>74’88’80</td>
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<td>Succlution</td>
<td>1644 M</td>
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<td>1644 M</td>
<td>Daisy THOMPSON</td>
<td>GBR</td>
<td>2:44’70</td>
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<tr>
<td>DAMES</td>
<td>WOMEN</td>
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<tr>
<td>100 M</td>
<td>Florence GRAFF</td>
<td>USA</td>
<td>10’49</td>
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<tr>
<td>200 M</td>
<td>J. KRAMO</td>
<td>CUB</td>
<td>3’28’28</td>
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<tr>
<td>400 M</td>
<td>C. G. EVANS</td>
<td>USA</td>
<td>7’52’60</td>
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<tr>
<td>800 M</td>
<td>I. SOKOLOV</td>
<td>USA</td>
<td>22’43’60</td>
</tr>
</tbody>
</table>

(*) 100 M = manual record - record manuel | J.KPM 1988 USA 10’47.
CISM XVI Volleyball Championship
17 - 31 July, Pordenone, Italy

Ten (10) countries spiked it out in Pordenone, Italy as part of the CISM annual championships. The 16th volleyball tournament began with opening ceremony at La Compina, Military Sports Club in Pordenone. The ten countries that competed for the gold were: United States, Italy, Belgium, West Germany, Netherlands, Canada, France, Greece, Iran and Saudi Arabia.

The athletes vary in rank from Captain on down. But they all share one thing in common; their love for volleyball. To many of them, CISM is like being in the Olympics, competing against other countries.

Teams began arriving July 16, with opening ceremonies July 21. A preliminary conference was held wherein it was decided by computer which team played who and at what time and location. The ten (10) teams were divided into two pools of five. The teams played against only the teams in their assigned pools. The games were held in four different locations with the championship game held in the city of Pordenone.

The competition was quite thrilling and the teams showed a highly technical performance. Although it was a normal placement for some of the teams in CISM volleyball, such wasn't the case for the undefeated Italian team who took the gold; trouncing Greece 15 - 10, 15 - 6 and 15 - 2 during the championship game.

The top teams were even coming into the championship game, but Greece was no match for Italy. The only spurt of energy shown by Greece was in the first game when they trailed Italy 14 - 6. Powerful spikes and awesome teamwork pushed the score to 14 - 10, causing Italy to call time-out. After the first game, Italy dominated control of the ball throughout the remaining games.

Belgium upset France 15 - 10, 6 - 15, 15 - 9, and 15 - 10 during the third place game, leaving France fourth.

Iran took fifth place after defeating West Germany 15 - 8, 12 - 15, 15 - 7, 13 - 15 and 15 - 12, putting Germany in sixth place.

The USA team wanted a chance at the seventh place against the Netherlands after loosing to them during the tournament, but they lost again 15 - 10, 15 - 1, 7 - 15 and 15 - 6. Saudi Arabia finished ninth leaving tenth place for Canada.

During the closing ceremony, Stefano Margutti from the Italian team received the Best Player award and Canada received the FairPlay trophy. After the closing ceremony, a buffet took place, followed by fireworks. The United States will host next year's CISM volleyball championship.

Handball

The national air carrier of Nigeria (Nigeria Airways Limited) has granted a 40% reduction on group travels to all nations taking part in the 9th CISM world military handball championship and in all future activities organized by CISM Nigeria. Bravo!

Final results
1st place: Italy-Greece: 3-0 (15/10 - 15/5 - 15/2)
2nd place: Belgium-France: 3-1 (15/10 - 8/15 - 15/9 - 15/10)
5th place: Iran-Germany FR: 3-2 (15/6 - 12/15 - 15/7 - 13/15 - 15/12)
7th place: Netherlands-United States: 3-1 (15/10 - 15/1 - 7/15 - 15/6)

Final classification
1. Italy
2. Greece
3. Belgium
4. France
5. Iran
6. Germany FR
7. Netherlands
8. United States
9. Saudi Arabia
10. Canada

Text: Captain E.K. Yankson,
Member of the Permanent General Secretariat

LA VIE AU CISM - LIFE IN CISM

—14—
— The opening ceremony

— Italy against Germany FR

— Civilian and military authorities during the opening ceremony

— Italy, CISM champion 1990

LA VIE AU CISM - LIFE IN CISM
La vie au CISM

A DDR delegation pays a courtesy visit to the Permanent General Secretariat

Visite d’une délégation de la République Démocratique d’Allemagne (DDR) au secrétariat général permanent en juillet 1990

Lt-Colonel François Pilot, Secretary General of the International Military Sports Council (CISM) was awarded the French Order of Merit by the Ambassador of France in Luxembourg for his contribution to the excellent relationships between France and Luxembourg.


CISM attended the olympic day run organized by the Belgian Armed Forces on July 1990.

Le CISM présent à l’olympic day run organisé par les Forces armées belges en juillet 1990.

Le Maroc, triple champion du monde militaire en cross country en 1990
L’équipe de cross court
L’équipe de cross long
L’équipe de cross féminin
Le 36ᵉ championnat du Monde de Basketball à Dijon (France) du 5 au 18 septembre 1990

d’après le rapport de la délégation française

Hommage du Conseil International du Sport Militaire à la France

Pendant deux semaines, la capitale de la Bourgogne a été le rendez-vous mondial du basketball militaire. Pas moins de 56 matchs ont été joués dans les quatre salles de la ville de Chênoë et des clubs associés tandis que les finales ont eu comme théâtre le Palais des Sports de Dijon.

La Base Aérienne 102 de Dijon a assuré le soutien logistique. Ceci a représenté l’hébergement de quelque 300 joueurs, 13 500 repas à servir et 40 véhicules avec leurs chauffeurs pour parcourir près de 90 000 km. A noter également l’ouverture de centres de récréation, bureaux de change, cabines téléphoniques, services de blanchissage ou encore la réalisation d’un bulletin d’informations quotidien, tout représentant plus de 250 personnes ayant contribué à l’organisation générale.

Le partage de la municipalité de Dijon et l’aide technique du club de basketball local (JDA Dijon) permirent le déroulement technique dans les meilleures conditions.

Le coup d’envoi a été donné le 6 septembre 1990 à l’occasion de la cérémonie d’ouverture organisée dans la cour d’Honneur de l’hôtel de ville de Dijon. La cérémonie était présidée par Monsieur Gérard Curoux, préfet de la région Bourgogne et représentant la présence des plus hautes autorités militaires et civiles dont le Lt-Colonel François Pilot, représentant officiel du CISM, le Général Lartigue, commandant la Force Aérienne Tactique, le Colonel Brugnon, commandant la Base Aérienne 102 et Président du comité d’organisation, le Général Giraud, nouveau commissaire aux sports militaires.

Ces championnats ont offert un spectacle permanent de haute qualité. Pas moins de 66 joueurs avaient participé au mondial de cet évènement. L’équipe des USA, déjà détenteur de 25 titres parmi ses concitoyens, a dû se contenter de la médaille d’argent. Détournée par l’absence de plusieurs titulaires de base, elle ne put empêcher l’Italie, impressionnante de bout en bout la compétition de survoler la finale face à la Belgique pourtant elle aussi invaincue en éliminatoires. Le score final : 128 à 84 était sans appel.

A l’issue de la cérémonie de clôture un repas fut offert par la municipalité de Dijon à l’ensemble des participants. Ce fut l’occasion pour les autorités de remercier les organisateurs pour cet excellent championnat et les joueurs pour leur spectacle offert pendant cette quinzaine du sport et de l’amitié.

Le Lt-Colonel Pilot, Secrétaire général du CISM en compagnie du Colonel Brugnon, commandant la Base Aérienne 102 et Président du comité d’organisation
Les résultats

Pour les 9ᵉ et 10ᵉ places: Chine - Nigéria: 120-94
Pour les 7ᵉ et 8ᵉ places: E.A.U. - Tchad: 89-67
Pour les 5ᵉ et 4ᵉ places: U.S.A - France: 106-95
Pour les 3ᵉ et 4ᵉ places: Grèce - R.F.A.: 124-84
Finale: Italie - Belgique: 128-84

Classement général

1. Italie
2. Belgique
3. Grèce
4. R.F.A.
5. U.S.A
6. France
7. E.A.U.
8. Tchad
9. Chine
10. Nigéria
11. Corée
12. Pays-Bas
13. Canada
14. Guinée
15. Tanzanie

«Smash! la retourne» d’un joueur américain

De plus, le jury technique (avec le vote des entraîneurs) a désigné:
le cinq majeur du championnat
le meilleur joueur du championnat

Cinq majeur
Michel Franc (Belgique)
Raymond Dudley (U.S.A.)
Jim Bilba (France)
Georgias Skropolihas (Grèce)
Davide Cantarello (Italie)

Meilleur joueur
Raymond Dudley (USA)

Duel sous l’anneau lors de la finale Belgique-Italie
Le Français Jim Bilba, l'un des meilleurs joueurs du championnat, dans ses œuvres

La cérémonie de clôture

Le « cinq majeur » récompensé lors du banquet final Franci (BEL), Dudley (USA), Cantarello (ITA), Bilba (FRA) et Skropolithas (GRE)

Les Italiens, nouveaux champions du monde militaires

36e CHAMPIONNAT DU MONDE DE BASKETBALL
<table>
<thead>
<tr>
<th>Situation Location</th>
<th>Chef du laboratoire Head of laboratory</th>
<th>Adresse Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barcelona (ESP)</td>
<td>Pr Jordi Segura</td>
<td>Institut Municipal d’Investigacio Medica, Department de Farmacologia i Toxicologia, P. Maritim s/n, 08003 Barcelona - Téléphone: (34.3) 300 75 52 Fax: (34.3) 485 49 52</td>
</tr>
<tr>
<td>Beijing (CHN)</td>
<td>Pr Dr Tong-Hui Zhou</td>
<td>Doping Control Laboratory, Pr Dr Zeyl Yang, National Research Institute of Sports Medicine, 11 Tiuyuan Road, Beijing, Chine Téléphone: (861) 5112233 Fax: (861) 7015888</td>
</tr>
<tr>
<td>Cologne (FRG)</td>
<td>Pr Dr Manfred Donike</td>
<td>Institute of Biochemistry Deutsche Sport Hochschule Carl-Diem-Weg 6, RFA 5000 Cologne 41 Téléphone: (49.221) 497 1313 Téléx: (051) 533 521 &quot;Ref: BOX: DM: DONIKE&quot; Fax: (49.221) 497 32 36</td>
</tr>
<tr>
<td>Helsinki (FIN)</td>
<td>Pr Kimmo Kuoppasalmi</td>
<td>United Laboratories Ltd. P.O. Box 70 - 00511 Helsinki 51 Téléphone: (358.0) 506051 Téléx: 122834 YKLAB SF Fax: (358.0) 50605410</td>
</tr>
<tr>
<td>Huddinge (SUE)</td>
<td>Dr Ingemar Bjorkhem</td>
<td>Department of Clinical Chemistry Karolinska Institutet, Kliniskt farmakologiska laboratoriet Stocke Huddinge Sjukhus, 141 85 Huddinge Téléphone: (46.8) 746 10 00 Téléx: 11342 HSVXL Fax: (46.8) 746 88 21</td>
</tr>
<tr>
<td>Indianapolis (USA)</td>
<td>Dr Carlton Nordschlows</td>
<td>Department of Pathology, School of Medicine, Indiana University Medical, Etats-Unis Centre, 925 West Michigan Street, Indianapolis/Indiana 46223 Téléphone: (1.317) 274 48 08 Fax: (1.317) 274 32 23</td>
</tr>
<tr>
<td>Kreischa (GDR)</td>
<td>Dr Claus Clausnitzer</td>
<td>Zentralinstitut des Sportmedizinischen Dienstes, August Bebel Strasse 12, GDR 8216 Kreischa Téléphone: (37.5196) 3308 Téléx: 26495</td>
</tr>
</tbody>
</table>

*Phase 1: Le laboratoire est temporairement suspendu pour les contrôles internationaux. (Au niveau national échantillons provenant du pays dans lequel le laboratoire est situé), le laboratoire peut effectuer des analyses mais les échantillons A déclarés positifs doivent faire l’objet d’une seconde analyse par confirmation par un autre laboratoire accrédité par le CIO. L’échantillon B correspondant sera également analysé dans le laboratoire accrédité par le CIO qui a confirmé le résultat de l’analyse de l’échantillon A.

*Phase 2: Le laboratoire est temporairement suspendu pour la confirmation du résultat positif des échantillons A et l’analyse des échantillons B. La confirmation de l’échantillon A et l’analyse de l’échantillon B seront effectuées dans un autre laboratoire accrédité par le CIO.

DOPE CONTROL LABORATORIES ACCREDITED BY THE IOC
<table>
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<tr>
<th>Location</th>
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<tbody>
<tr>
<td>Paris (FRA)</td>
<td>Pr Jean-Pierre Lafarge</td>
<td>Laboratoire anti-dopage 143 Avenue Roger Salengro, France 92290 CHATENAY-MALABRY Téléphone: (33.1) 466 026 69 Fax: (33.1) 466 030 17</td>
</tr>
<tr>
<td>Prague (CZE)</td>
<td>Dr R. Slechtowa</td>
<td>Institute of Sports Medicine and Dope Control Laboratory, St starkohiistadion, 160 17 Prague 6 Brno, République fédérale Tchèque et Slovaque Téléx: 122650 CSTV</td>
</tr>
<tr>
<td>Rome (ITA)</td>
<td>Dr F. Rosati</td>
<td>Federazione Medico-Sportiva Italiana, Palazzo Delle Spedizioni, Via Tiziano 70 Italie Rome Téléphone: (33.6) 30 30 11 Téléx: 621510 CONIF</td>
</tr>
<tr>
<td>Séoul (KOR)</td>
<td>Dr Jonael Park</td>
<td>Doping Control Center Korea Institute of Science and Technology, République de Corée P.O. Box 131 Chongnyang, Séoul Téléphone: (82.2) 553 2947 Téléx: K 27 260 Fax: (82.2) 553 6225</td>
</tr>
<tr>
<td>Sydney (AUS)</td>
<td>Dr R. Kazlauskas</td>
<td>Australian Government Analytical Laboratories, 1 Suakin Street, Australie PYMBLE, NSW 2073, Téléphone: (61.2) 449 01 11 Téléx: (071) AA61906 AUSTRALI Fax: (61.2) 449 16 53</td>
</tr>
<tr>
<td>Tokyo (JAP)</td>
<td>Dr Jun-Ichi Fukuda</td>
<td>Mitsubishi Yuka Bio-Clinical Laboratories Inc., MS Division, 3-30-1 Shimura, Itabashi-ku, Tokyo 174 Téléphone: (81.3) 594 2351(2) Téléx: 222 3712 diacod</td>
</tr>
<tr>
<td>Utrecht (HOL)</td>
<td>Pr Dr J.M. Van Rossum</td>
<td>Netherlands Institute of Drugs and Doping Research, Vondellaan 14, Pays-Bas 3521 GE UTRECHT Téléphone: (31.30) 885465 Fax: (31.30) 895720</td>
</tr>
</tbody>
</table>

*Phase 1: The laboratory is temporarily suspended from international testing. At the national level (samples originating from the country in which the laboratory is located), the laboratory may perform screening procedures but analytically positive A-samples must be confirmed by another IOC-accredited laboratory. The corresponding B-sample will also be analysed in the IOC-accredited laboratory which has provided confirmation of the A-sample.

*Phase 2: The laboratory is temporarily suspended from confirmation of analytically positive A-samples and analysing B samples. Confirmation of the A-sample and analysis of the B-sample will be performed in another IOC-accredited laboratory.
<table>
<thead>
<tr>
<th>Situation Location</th>
<th>Chef du laboratoire Head of the laboratory</th>
<th>Adresse Address</th>
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<tbody>
<tr>
<td>Lisbonne (POR)</td>
<td>Pr Lesseps Lourenço Reys</td>
<td>Laboratorio de análises do doping e bioquímica, Diracção-geral dos desportos, Estadio Universitario Av. Professor Egas Moniz, 1600 LISBOA Téléphone: (35.1) 760245 Télex: 43447 FISPOR P Fax: (35.1) 160 26 04</td>
</tr>
<tr>
<td>Londres (GBR)</td>
<td>Dr David Cowan</td>
<td>Drug Control and Teaching Centre, London University, King’s College Manresa Road, LONDRES SW 3 eLX, Angletterre - Téléphone: (44.71) 351 24 88 / (44.71) 352 38 38 Télex: c/o IAAF London Fax: (44.71) 351 25 91</td>
</tr>
<tr>
<td>Los Angeles (USA)</td>
<td>Pr Don H. Cattinucla</td>
<td>Olympic Analytical Laboratory, Department of Pharmacology, UCLA School of Medicine, Etats-Unis 650 South Circle Drive, Room CHS 23-133, Los Angeles, California 90024-1735 Téléphone: (1.213) 825 2789 Télex: 025 810 3427597 Fax (1.213) 825 62 67</td>
</tr>
<tr>
<td>Madrid (ESP)</td>
<td>Dr Cecilia Rodriguez</td>
<td>Laboratorio Investigacion Bio-quimica y control anti-doping, Consejo Superior de Deportes, c/Greco, s/n, Cuidad Espana Universitaria, 28040 Madrid Téléphone: (34.1) 2437290 Télex: 22661 Sport E Fax: (34.1) 244 3994</td>
</tr>
<tr>
<td>Montreal (CAN)</td>
<td>Pr Robert Dugal, Directeur Pr Robert Masse, Directeur adjoint</td>
<td>INRS-Santé, Institut National de la Recherche Scientifique, Université du Québec, 245, Blvd. Hyrnus, Pointe-Claire, Québec H9R 1G6 Téléphone: (1.514) 630-8800 Télex: 051 31623 Fax: (1.514) 630 8850</td>
</tr>
<tr>
<td>Moscou (URS) *Phase 2</td>
<td>Pr Vitaly Semenov</td>
<td>Moscow Dope Control Laboratory Anti Doping Centre, Kassanova 18, URSS, Moscou Téléphone: (7095) 261 27 76 Fax: (7095) 248 08 14</td>
</tr>
<tr>
<td>Oslo (NOR)</td>
<td>Dr Peter Hemmersbach</td>
<td>Hormone Laboratory, Sections for Doping Analysis, Aker Hospital N-0514 OSLO 5, Norvège Téléphone: (47.2) 83 47 08 - 22 05 45 Fax: (47.2) 15 87 96</td>
</tr>
</tbody>
</table>
20th Parachuting Championship from 17th to 27 July 1990 Altenstadt, Germany (RF)

Participating countries (28): Germany F.R., Angola (2), Austria, Belgium, Burundi, Chile, Denmark, United Arab Emirates, Spain, United States (3), Finland, France (3), Hungary (1), Iraq, Italy, Libya, Malaysia, Morocco (3), Oman, Poland (1), the Netherlands (3), Rumania (2), Sweden, Switzerland (3), Czechoslovakia (1), Thailand (3), Togo and Soviet Union.

Observing country (3): Nigeria, Tunisia, Germany DR
Official CISM Representative: Colonel A. Al Nuaimi (United Arab Emirates)
PTC President: Lt-Colonel E. Grätzer (Switzerland)

(1) Non member nations: participation out of competition
(2) Invited nations: participation out of competition
(3) With feminine participation

Vingt huit nations participantes se sont retrouvées à Altenstadt pour cet événement du CISM. Plusieurs pays du bloc de l’est, à savoir Union soviétique, Pologne, Roumanie, Hongrie et Tchécoslovaquie ont également participé hors compétition à la 20e édition de ce championnat brillamment organisée par le centre de parachutisme d’Altenstadt.

La compétition s’est déroulée dans les trois disciplines prévues par le règlement du CISM:
- saut de précision d’atterrissage
- saut individuel de voltige
- vol relatif

Saut de précision d’atterrissage

L’épreuve se déroule sur huit tours de sauts, tous comptant pour les classements individuels et de groupe. Les cinq parachutistes de l’équipe quittent l’avion à une altitude de 1200 m et descendent en chute libre jusqu’à 800 m. Une fois le parachute ouvert, le concurrent se dirige avec le plus de précision possible vers la cible. Le point du premier contact de n’importe quelle partie de son corps avec le sol est marqué par un piqué de marquage, l’écart entre le bord du plat circulaire de 5 cm de diamètre (qui matérialise la cible) et le piqué de marquage est relevé. Cette mesure donne le résultat de la performance réalisée par le candidat. Le « carreau » (performance 0,00 m) n’est attribué que s’il est effectué avec la pointe ou le talon d’un seul pied.

Saut individuel de voltige

Les sauts sont effectués à une altitude de 2000 m. Au bout de 10 à 15 secondes, le concurrent réalise une série de figures imposées (tours à 360° et looping arrière) en un minimum de temps possible. Les observations sont faites depuis le sol par appareils optiques usuels ou équipement vidéo.

Il est à noter qu’aucun record du CISM précédemment établi n’a été égalé ni vaincu.

Vol relatif

Cette discipline relativement récente consiste en une série de figures sur des programmes imposés en un temps maximum de 35 secondes. Chaque équipe effectue quatre sauts à 2750 m d’altitude, tous retenus pour le classement. Entre chaque figure réalisée par l’équipe, les parachutistes doivent s’éloigner les uns des autres. Les observations sont également effectuées par moyens optiques habituels ou équipement vidéo.

Il faut néanmoins souligner l’excellente performance réalisée par les Pays de l’Est qui participaient hors compétition. Une participation à part entière aurait certainement permis à ces pays et leurs athlètes de se placer parmi les meilleurs au classement officiel.

LA VIE AU CISM - LIFE IN CISM

—23—
Results

Men

Individual Accuracy
1. M. Abdulla (UAE) 0.01 (*)
2. R. Husemann (FRG) 0.02
3. G. Alic (AUT) 0.02

Style
1. E. Lauer (FRA) 24.45
2. F. Bernachot (FRA) 25.58
3. C. Lubbe (FRA) 26.72

Combined
1. F. Bernachot (FRA) 188.4
2. C. Lubbe (FRA) 203.5
3. B. Philipponnat (FRA) 211.2

Women

Individual Accuracy
1. S. Carjuzaa (FRA) 0.01
2. C. Stearns (USA) 0.047
3. L. Nicolas (FRA) 0.04

Style
1. C. Stearns (USA) 33.91
2. S. Carjuzaa (FRA) 33.12
3. C. Grätzner (SUI) 34.12

Combined
1. S. Carjuzaa (FRA) 250.2
2. C. Stearns (USA) 254.0
3. C. Grätzner (SUI) 265.3

Team Accuracy
1. Italy 0.24
2. Germany F.R. 0.26
3. United Arab Emirates 0.26

Relative work
1. Belgium 75
2. Spain 72
3. Morocco 70

Combined - team
1. France 743.5
2. Germany F.R. 917.9
3. United States 941.4

Team Accuracy
1. France 0.52
2. United States 0.66
3. Thailand 0.62

Relative work
1. France 24
2. United States 19
3. Switzerland 11

Combined - team
1. France 1.143.1
2. United States 1.163.9
3. Switzerland 1.341.9

(*) Winner of the Challenge Francis Potier: Marad Abdulla (Arab Emirates)

Huseman (FRG), silver medal in individual accuracy
Huseman (FRG), médaille d'argent en précision individuelle

Abdulla (UAE), winner of the individual accuracy competition
Abdulla (UAE), vainqueur de la précision individuelle

G. Alic (AUT), bronze medal
G. Alic (AUT), médaille de bronze

La Vie au CISM - Life in CISM
The Background to the Selection of Gifted Young People in Sport

Text by Richard J. Fisher and Jan Burns
with the special authorization of International Council of Sport Science and Physical Education

It is axiomatic that any discussion of factors affecting the process of selection in sport must be prefaced by a consideration, albeit a brief one, of what can be described as prerequisites. In countries such as Brazil where infant mortality is around 100 deaths per 1,000 births, and many of the African countries where nutrition and health are significantly below what could be considered as minimal for even ordinary living, any system of selection is going to rest on an insubstantial base. Without this necessary underpinning the selection of talented young people is unlikely to be effective in any general sense. These difficulties can be compounded if one considers the educational and social conditions existing in many of the developing countries, in particular the poor state of curricular physical education in schools. Programmes of physical education in schools are one of the key foundations of a successful system of sport in any country and an important base for the selection process. When the system of physical education is not evident in any comprehensive fashion, as is the case in India where only 1% of schoolchildren take part in sport at school age, it is unlikely that the pyramidal system of development favoured by most countries will be able to operate, given the great importance of the schools at lower levels (see Figure 1).

However, it must be acknowledged that countries do produce champions when environmental conditions would seem to militate against it and sometimes from a very thin base of participation, but not usually in any systematic or consistent fashion.

An improvement in matters of health and nutrition coupled with an increase in general physical fitness, mostly through school physical education programmes, are clearly priorities for any developing country concerned to promote its sporting talent in any systematic way.

Beyond these basic requirements the Soviet researchers Zatsiorsky et al. (1973) have indicated that the basic requirement in the development of a consistent and dependable system of selection is to determine the ideal qualities necessary for success in particular sports:

- The main prerequisite for successful selection is a thorough knowledge of the components making up the activity in question, so that a preliminary analysis of the constitutes skills and movement characteristics can be made.

- The notion of establishing a model for each sport or event is one that increasingly has proved to be of value in selecting talented children and in establishing training and coaching requirements.

In order to realize the creation of these models, statistical data must be collated from a wide range of top performers in various sports in relation to factors such as somatotype, the relationship between biological age, typical rates of progress, physical performance in a variety of tests etc. The strategy of establishing profiles of top athletes which can then be used as standards in the selection or specialization of young athletes seems to have much to commend it, and its collation in a systematic, longitudinal format is an important step in improving methods of selection.

In the same vein, the recording and evaluation of longitudinal data on general physical performance parameters in the normal population enables researchers, teachers and coaches to develop norms against which young people can be compared and exceptional performers identified.

In order to construct profiles of top athletes with a view to establishing selection requirements and to attempting to predict the potential performance levels of children in sport, one can identify a variety of factors which mediate sporting performance and can help us to understand the gap between early potential and final achievement. In particular the biomechanical, biochemical, psychological, neurological and social characteristics of any performer merit serious attention. Other important factors would include somatotype, the relationship between biological maturation and chronological age, as well as the availability and quality of sports medicine schemes. However, the contribution of each of these factors to sporting performance cannot be quantified precisely, although research indicates that predictions can be made with more confidence in physiology, for example, than in the case in psychology. This is not to detract the importance of any of these areas but rather to highlight the different stages of development in the various fields of study.

Transcending all these factors are the twin and interlocked influences of genetic predisposition and the environment. While it is obvious that the best athletic performance can only be achieved when biological predispositions and environmental conditions are realised in an optimal fashion, the exact contribution of these influences is unclear in many disciplines of sport science. Certainly genetic effects are of paramount importance in determining somatotype, and Bouchard and Lorber (1984) have shown that the influence of heredity in determining success in endurance events is evident in several ways:

1. As genetic effects on traits correlated with endurance performance;
2. As a source of variation in endurance performance independent of training;
3. As a factor determining the extent of the sensitivity to training.

However, if it is impossible to establish clearly the extent to which these two influences affect the emergence and realisation of high level sports performance, it is less difficult to identify the ways in which all the factors highlighted here might interrelate or separately impinge upon the selection process, particularly within the confines of a single publication. Consequently, it has been necessary to be selective although the existence of broader perspectives and different approaches is acknowledged.

Furthermore, although a major requirement of this study is to put forward practical proposals for field situations, these can only be meaningful when viewed in the light of

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**Figure 1: A Typical Pyramidal System of Sports Development.**

--- international level participants
--- national level participants
--- regional level participants
--- local level participants
--- school level participants

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such research evidence as is available. Whilst much of the work conducted in laboratories is not transferable to the playing field in any direct fashion, it is crucial in guiding those involved in the selection and development of talented children since it can help to highlight problem areas and to increase our knowledge of the factors mediating potential success in sport. For these reasons, a certain amount of research background is not only unavoidable it is essential to an understanding of the selection process. Indeed, consultation with representatives of developing countries revealed that a comprehensive survey of literature pertaining to the issues raised in this study would be one of their requirements.

**Structural and Functional Considerations**

Some of the areas in which a good deal of information has been forthcoming are those associated with the structural and functional characteristics of elite adult athletes and younger competitors.

**Endurance Characteristics**

An important characteristic underpinning performance in endurance related sports is the ability to sustain high levels of oxidative energy production and the most common measure used with elite endurance performers is maximal oxygen consumption rate, or VO2max (measured in l/min or ml/kg/min). Other measures which are being used increasingly are anaerobic threshold, i.e., highest steady state work rate (or VO2) before significant increases in muscle or plasma lactate concentrations develop, and submaximal energy costs (VO2 for a given work rate) which indicate economy of effort. These factors are all useful when testing for specific ability in sport, and data on successful adolescent competitors has shown that in sports requiring high endurance levels this capacity is evident already in these performers (see Table 1). However, the comparison with senior athletes indicates that the relationship is not a simple one. Bar-Or (1983) has shown that endurance response characteristics, such as VO2max, when measured in l/min increase with the maturation of a child, yet when measured in ml/kg/min such values may be relatively stable in many normally active children. The complexity of the relationship between aerobic power and body size and mass has been reviewed by Borrns (1986).

Moreover, while VO2max may be the most used indicator of endurance capacity, it is not the only important factor in this respect and the nature of adaptation in this capacity during training in young athletes is unclear as yet. Indeed, and perhaps because of improved running economy, Daniels (1978) has noted significant increases in performance while VO2max scores remained stable. Furthermore, the work of Kobayashi et al. (1978) suggests that the full effects of training are only

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**Table 1: Endurance Characteristics of Senior and Junior Athletes**

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**Speed and Power Characteristics**

Sports requiring rapid bursts of effort are supported anaerobically by phosphagen and glycolytic metabolism. Young adults who perform well in sports such as sprinting are characterised, like their senior counterparts, by an ability to attain high power outputs relative to body weight. However, the metabolic characteristics underpinning anaerobic energy responses are subject to growth influences and specific enzyme activities may serve in a rate limiting capacity, as in the case of phosphofructokinase which is thought to ratelimit glycolysis. Eriksson (1972) has shown that, regardless of training status, this quality is lower in children than in adults. Therefore, prior to adolescence younger athletes will have a lower metabolic ability for « sprinttype » activities. Tests of anaerobic capacity (AC or AC/W) and anaerobic power (AP or AP/W) indicate that the lowest values are to be found.

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**Table 2: Anaerobic Responses in Selected Groups of Athletes**

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in the youngest subjects (see Table 2). Moreover, Thorland (1984b) indicates that while adolescent anaerobic responses approach adult levels, sprinters have not reached the sort of level that could significantly distinguish them from other trained runners. The indications are that the full range of capabilities for anaerobic responses will not be evident until the later stages of adolescence or during young adulthood, making it difficult to predict long sprint ability in younger subjects.

**Strength Characteristics**

The production of high force outputs or the rapid generation of submaximal force outputs are consistent with success in many sports. In particular, the ability to produce forces of a lower magnitude but at high limb velocities is crucial for movements such as throwing, jumping, kicking or sprinting.

Isokinetic testing provides a means for measuring peak torque production at any of a variety of low to moderate limb velocities. Table 3 shows some values of different groups of athletes in relation to leg extension at 180°/sec. The higher peak torque levels demonstrated by athletes in sports requiring rapid acceleration of body mass is obvious, and the data on younger athletes reveals that peak torque increases exceed the rate of body weight increases during adolescence. Yet, as Thorland et al. (1984b) has shown, when only adolescents are tested at higher limb velocities it is possible to observe between sport differences in peak torque values similar in pattern to those seen between young adult competitors. Therefore, simpler measures of strength levels in children may not satisfactorily reflect specific sport related abilities.

Beunen and Malina (1988) concluded that strength and motor performance themselves can be seen to sport in adolescence. They report that peak gains in several strength tasks occurred, on average, after peak height and peak weight velocity in boys. Unfortunately, corresponding longitudinal data on the strength and motor performance of girls are lacking.

It should be noted that the American Academy of Pediatrics (Legnold 1982), while recognizing that weight training enhances athletic preparation and performance in many sports, especially in postpuberty and if the regime is well supervised, opposes weightlifting (either Olympic or powerlifting) during adolescence because of the possible damage that could occur to the epiphyses.

**Body Composition and Somatotype**

Somatotype is an expression of the interrelation of three qualities that characterize an individual's body build, namely: endomorphy (fitness), mesomorphy (muscularity) and ectomorphy (linearity). Each quality is marked on a scale, usually 19, representing a continuum indicating a low to high preponderance in any of the 3 particular aspects.

A number of studies (Carter, 1952, 1984, for example) have been conducted to assess the body composition and/or body build characteristics of athletes in various sports. These studies have been regarded as individual examples of findings in this field, but there are implications of general value for the purpose of selection. Typically, these studies have appraised such characteristics in senior level performers, many of whom have engaged in international level competition. As a result of such investigations it has become apparent that particular compositional or build traits are often associated with high level performance in certain athletic events. However, the extent to which such factors contribute to athletic performance is unclear and in many cases they may be secondary to other factors such as metabolic response traits or strength level for example.

Nonetheless, it seems reasonable to assume that, to varying degrees, body composition and build characteristics may have a significant influence on the level of performance that can be achieved.

Therefore, description of the structural qualities that distinguish the elite young adult competitor can prove useful as a screening device.

Some typical physical and body composition characteristics of highly proficient young adult and adolescent (junior level) performers, and reference values for nonathletic adolescents, are summarised in Table 4 and 5. It can be seen that in those activities requiring the generation of high force outputs (such as weight throws, jumps, gymnastics and wrestling) the older competitors are characterised by greater lean body weights. This corresponds with the tendency for young adult performers to exhibit greater mesomorphic dominance than their junior level counterparts (Thorland 1985).

Correspondingly, in those activities requiring the generation of high force outputs (such as weight throws, jumps, gymnastics and wrestling), the older competitors are characterised by greater lean body weights. Among the females such trends are much less evident and this most likely reflects the lower anaerobic stimuli available to promote training-induced lean mass development in women (Fox 1988).

Sport specific screening criteria can be added from the differences evident among the various groups represented. Among the males, weight throwers are particularly unique in being of above average height, weight, lean mass and fatness and, not surprisingly, jumpers also tend to be notably tall. At the other extreme gymnasts and divers are usually of below average height, weight, lean mass and fatness, while jumpers, vaulters, sprinters hurdlers and middle distance runners also tend to be low in fatness. Within the female groupings, with the exception of the gymnasts and the divers, all groups are above average in lean body weight and, except for the weight throwers, they are all considerably below average in fatness. Greater height is usually a feature of the weight throwers and jumpers in contrast to the gymnasts and divers and body weight also distinguishes the weight throwers from the gymnasts.

Research in India (Sodhi, 1985) has utilised some of the data available on the somatotype of Olympic athletes in order to make comparisons with budding athletes in that country. The results revealed that Indian athletes were less mesomorphic, more ectomorphic and lighter than their Olympic counterparts. This work is interesting in that it demonstrates how existing sources of information can be used to good effect by developing countries.

Table 3: Peak Torque for Leg Extension at 180°/Sec in Selected Groups of Athletes

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THE SELECTION OF GIFTED YOUNG PEOPLE IN SPORT

Table 4: Body Composition of Female Athletes

Table 5: Body Composition of Male Athletes

Summary

The results of research to date into the structural and functional profiles of athletes in different sports has led to the identification of a number of factors, which uniquely characterize elite competitors in a number of sports. However, there remains the problem of how these factors interact, greater knowledge of which would considerably aid effective screening. Establishing profiles of elite performers and making comparisons with those of lesser ability is important but only an initial phase in clarifying the requirements needed to make it to the top in sport. Clearly, further research is needed to fill the crucial variables that account for elite performance. For example in distance running, which has received a great deal of attention in terms of identifying performance models, Thorland et al. (1984) showed that a high VO2 max level (L/min), a low submaximal VO2 at a standard speed and a low body weight are crucial to high level middle distance performance and that these factors independent influences by anaerobic threshold, muscle strength, anaerobic capacity, or body fatness are insignificant. Hence, while high anaerobic threshold levels and low body fatness have been identified as distinct features of middle distance runners, other characteristics have much more important influences on actual performance.

There is also a need to strengthen the links between work in laboratories and that in the field, for example in standardising and validating field tests with those conducted in the laboratory. Moreover, in relation to the actual selection of younger athletes it is important to note the conflicting effects of maturation, since the research outlined above indicates that many of the physiological qualities that distinguish top athletes discomfort in adults may not be apparent until late adolescence. For this reason the prediction of future performance levels from testing programs or competition results may be relatively poor in younger age groups. Physical growth may enhance or diminish the distinction between young elite performers and agegroup peers and superior ability at a young age may be a reflection of early maturation.

In any case Hebbelinck (1989) points out that late matures may have an advantage over their earlier maturing contemporaries in that they may well work more on the skill aspects of their sport to compensate for disadvantages in size and strength. This in turn can pay dividends at a later stage. Consequently, the value of currently available tests in predicting future achievement is by no means certain and, at least in the field of physiology, probably diminishes as a function of the subject’s immaturity and the span of time required to reach the top. Watson (1984) is but one source which acknowledges the importance of maturation factors and puts forward a growth model assessment which needs some way to developing a solution to this difficult problem.

It is relevant at this point to address briefly the issue of adolescent awkwardness, a concept which can be found in the literature on general development during adolescence. It is a term which is often used to determine a temporary disruption of motor coordination during the growth spurt. Beaven and Malina (1988), in a longitudinal study of 446 boys, showed that a significant number of boys experienced a decline in performance during their growth spurt on four of seven motor performance tasks. The decline was not a general trend and was temporary. It is interesting to note that so-called “decliners” and “improvers” in performance during the growth spurt showed no significant difference in general strength and motor performance of 18 years of age (young adulthood). The authors conclude, therefore, that the individuality of adolescent changes in growth and performance must be recognised and appreciated.
Psychological and Social Considerations

Psychological Considerations

Whilst a good deal of information is also forthcoming in relation to the psychological and social profiles of elite performers, the present state of knowledge does not permit the selection of talented performers on the basis of these data alone. However, as Morgan (1979) indicated there are athletes with acknowledged psychological inadequacies who still achieve at high levels in sport and ultimately selection will only approach high degrees of reliability when athletes are viewed as complex psychological organisms. In a study of 62 high achievers in sport, Hemery (1986) identified a number of psychological factors associated with success. These are defined as athletic intelligence, creativity, visualisation and imagery, concentration and control, pre-competition preparation, competitiveness and striving, getting an edge, and controlling one's own destiny.

Of central importance in achieving success in sport are the unique behavioural dispositions which the individual brings to the actual performance. These dispositions incorporating the individual's perceptions, interests, motivations and personality are likely to be particularly influential in shaping performance in competitive sports where, for example, motivation to achieve and ability to handle stress are widely regarded as prerequisites for success. That is not to say that the ways in which such dispositions operate are fully understood. Traditionally, explanations have been sought in the personality area of psychology, although major controversies have existed concerning for example the relative performance of personality traits and states; the effects of cognitive and perceptual styles on performance outcomes; the nature and force of intrinsic motivation; the importance of 'personal constructs' and previous experience on the 'set' which the individual brings to a situation, as well as the relationship of personal and situational factors (Kane and Fisher, 1979). However, recent attention has tended to be directed towards the cognitive strategies adopted by performers in sport (see Straub, 1986). Research so far indicates that elite performers are more alike in terms of psychological profile than they are dissimilar and Morgan and Johnson (1975) suggest that a combination of approaches can be useful in attempting to discriminate between athletes of differing performance levels. In the efforts to establish these profiles, batteries of tests have proved to be more successful than any single measure and the most popular of these have been; the Spielberger State Trait Anxiety Inventory, Martens' Sports Competition Anxiety Test, The Profile of Mood States by McNair et al, the Eysenck Personality Inven-

tory, The Cattell 16PF Inventory, Nideller's T.A.I.S. and T.T.A.I.S., Cattell's Motivation-Adjustment Test, as well as the use of methods such as Kelly's Personal Construct Theory (Fischer 1985). Of particular interest and with easy application to the field, notwithstanding the fact that it is essentially a measure of subjective sensitivity, is Borg's (1973) scale of perceived exertion. Cavassini and Matsudo (1983) discovered that low scores were returned from top athletes when they were young, indicating an early disposition towards perception of physical efforts as being less exhausting than that experienced by their counterparts.

However, the achievement of excellence in sport is centrally concerned with the ability to cope with stress and anxiety. Indeed, the Fédération Européenne de Psychologie des Sports et des Activités Corporelles have been conducting a project on anxiety in sport for several years (FEPSAC 1985) in recognition of the importance of this factor as a performance variable. Of particular interest is the development of the Competitive State Anxiety Inventory (CSAI 2, Martens et al, 1983) which is now in a revised form. This instrument measures cognitive and somatic anxiety in a sports context, as well as selfconfidence. Barnes et al (1986) used the CSAI 2 to investigate the validity of these three components in predicting performance. They found that cognitive anxiety characterised by the worrying about negative expectations and cognitive concerns about oneself, the situation and potential consequences was a significant predictor of performance levels. However, somatic anxiety (the physical manifestations of anxiety) did not prove to be a significant predictor of performance levels. Moreover, self-confidence, which is thought to be related to cognitive anxiety did not emerge as a significant factor in these experiments.

What is not true of a great deal of research on young people in relation to anxiety and sport, it is clearly an important area to be developed if screening for future talent is going to be both comprehensive and effective. At the moment, and in the present context, Martens' (1977) Sports Competition and Anxiety Test (SCAT) is probably the most useful psychological tool for predicting anxiety in sport specific situations. This instrument measures competitive trait anxiety and seeks to identify those persons who exhibit more or less anxiety in sporting situations. It is a test which is easy to administer and there is a children's version.

Clearly, more research is needed into the profiles of top performers in sport in order to clarify the psychological concomitants of success. One such project was initiated at the West London Institute of Higher Education (UK) where numbers of the Ballet Rambert Company were monitored on a range of sociological and psychological parameters, as part of a pilot study into the nature of giftedness in dance. In addition to some of the measures mentioned already, these dancers, whose use of the body as an instrumental, expressive tool probably reaches greater heights than many others, were monitored on Bern's Sex Role Inventory, Rotter's Locus of Control Scale, and measures of bodily kinesesthetic image perception. At the English Football Association's school of excellence in Lilleshall National Sports Centre, outstanding young players have also been monitored on a range of psychological measures, although the function of this monitoring is intended primarily as a support mechanism for these talented young soccer players. More projects such as these would be extremely useful in developing screening procedures since data on younger athletes is particularly thin.

Another important area in the screening for talent, but one which also needs further development, is the specific orientation of intelligence in sporting situations. Gardner (1983) has identified the existence of both bodily kinesthetic and musical intelligence but the seminal work in this area seems to be that of Rodionov (1973) who has focussed on the sportsman's psychological processes. He indicates that the importance of the athlete's 'operative' or 'tactical' thinking, in that competitive situation, comes from the sportsman an extremely well developed and oriented cognitive ability. This developed ability is necessary in order to analyze opponents' moves and plays, to anticipate his further actions and to introduce appropriate counterplans and tactics. The sophisticated sportsman will additionally need to 'read' and interpret quickly the environmental 'field' and general game situations.

Rodionov concluded that the main advantage of the better sportsman lies in the speed of perceiving and effecting a solution, and that this ability is noticeable as a differentiating factor at an early age of specialisation. Rodionov's investigations into the characteristics of operative thinking of sportsmen were based on simulated laboratory games which were developed and adapted in the Soviet Union. In the general context of perceptual and motor abilities Russell (1988) has identified some possible 'clusters' of attributes that would be matched to different types of sports as follows:

- sports involving a high degree of spatial orientation
- sports involving a high degree of hand-eye coordination
- sports involving a high degree of foot-eye coordination
- sports involving rapid decision making and choice selection
- sports involving time estimation
- sports involving dynamic balance

Further research into the orientation of intelligence in the cognitive and neuromotor facets of sport would seem to be important in developing selection procedures. Of similar importance would be work such as that of Geroni (1975) into the profiles of intelligence of performers in particular sports.
In another context, particular attention has been attached in recent years to the notion of readiness for competitive sport. Malone (1985) points out that readiness for sport can be defined as the match between a child’s maturation and development on one hand and the demands inherent in the particular sport on the other. Lee (1985) further indicates that competing rather than merely participating changes the demands on children and that they must now proceed through stages of development before being able to understand fully and cope with such demands. It would seem from the available literature (Smith, Smith and Smoll, 1983) that children can reasonably be expected to commence noncontact sports at six to eight years approximately, contact sports at eight to ten and collision sports at approximately ten to twelve years of age.

However, it is important to emphasize that while psychological factors may be critical in respect of achieving high performance levels or good competitive results, the assessment of psychological attributes in itself cannot be considered as a substitute for personal guidance since, as in other specialist areas, there are other ethical and professional codes to be observed. Nevertheless an awareness of the psychological consequences of success in sport is useful in itself. Furthermore, developing countries can gain a certain amount of information in this respect simply from first hand experience with young people at school and in the home. Once more basic requirements are met, it should be possible to introduce more specialist screening and to build more sophisticated profiles of the young people involved.

Social Considerations

Social factors frequently interact with psychological variables and in any case are no less significant in the development of sporting talent in young people. However, it is not possible here to examine in detail the many influences operating through a young person’s social environment which influence his/her ability to succeed in sport. Nevertheless there are crucial variables which must be acknowledged as significant in the emergence and development of talent.

Perhaps the most important influence on a young person’s capacity to be successful in sport is the home environment. Bloom (1985) in a study of gifted children in a number of spheres including sport, clearly identifies parents and the home background as critical factors in the realisation of talent. This would appear to be particularly true of the early years, when parents can provide opportunities and help to establish a child’s focus on what to achieve and how to set about it.

Work by Kardacsy (1988) has shown not only that the family is the most important source of motivation for engaging in sport but that in one particular sport, gymnastics, it was the overwhelming influence in this respect. The home environment is also important as a stabilising influence of course. The technical advantages gained by attending a regional or national residential centre for sport have to be balanced against the loss of familial support. Certainly the early stages of selection and development would seem to be best placed in the child’s own school and against the normal home background. Indeed, Henery (1986) found that 68% of the best athletes identified in his study did in fact that he studied regarded their home life as stable and all of them felt that the behaviour of their parents had been consistent. Moreover, most of these top performers indicated that their parents had not pushed them too hard when they wanted an athlete. This is in marked contrast to the plethora of stories on record concerning ambitious parents who try to realise success in sport through their offspring.

A most revealing study was conducted by Carlson and Engstrom (1988) into the back-ground and development of elite male tennis players in Sweden and they discovered that the environmental context proved to be of the utmost importance. For most players this meant belonging to a small club with a good social atmosphere and a coach who was friendly, supportive and enthusiastic more than he was highly qualified. It also meant support but few demands from parents. This environment led to the formation of emotional and social security and a stimulating, enjoyable and supportive training climate. Few of the Swedish players who now sit at the top of the world tennis scene specialised in tennis before the age of 14 and most practised less at this age than many of their contemporaries who did not achieve greatness.

However, providing opportunities for talented children is expensive both for families and for the country concerned. Of particular interest then, is the scheme in Belgium. It is financed completely from private sources, only: most of the staff who will implement it were unemployed previously and there are plans for savings schemes to help parents meet additional costs.

Many of these points will create particular difficulties for developing countries. Limited resources may well be needed to be channelled regionally or nationally so that children may be able to retain close family links. Furthermore, parents are unlikely to be able to provide the financial support which is evident in more affluent countries and additional sources of finance, private and state based, are unlikely to be easily available. What is clear is that parents must be consulted at all levels of the operation to develop talented children and young people. Moreover, they must be provided with as much information as possible on how such a system is likely to affect their sons or daughters.

In addition, it must be emphasised that while involvement in a scheme for developing excellence in sport can bring many benefits to the young people concerned, there are also many dangers. What must be considered at this point is the principle expressed by Olick (1980 p. 272) - 'The challenge is not only in pursuing excellence but in doing so without destroying the rest of your life'. In the first place young people need a sense of balance in their lives, pursuits and interests which take them away from an obsession with sport. They also need to have access to a full and meaningful education, thorough training or through special arrangements within schools, close to the main centre for training. Finally, a young person’s career prospects should not be wasted because of involvement in top class sport.

At some stage the athlete will retire, or simply drop out of a variety of reasons: disillusionment, lack of progress, injury, or social pressures. For example, Olick has described the effect as a change from hero to zero. If sufficient concern has been given to education, career prospects, enjoyment and a life outside sport, then serious problems exist for the athlete concerned.

The notion of protecting young people in sport includes their physical health and well-being of course. Medical examinations to determine suitability for extensive training and medical care and screening during that training should be fundamental elements of any system for promoting talent in sport.

In conclusion it must be acknowledged that there is much work to be done in creating better psychological screening procedures and in understanding the mediating effect of social influences. However, the data which is available can serve to enhance the process of promoting talent in young people and it can help to safeguard their personal and professional development.

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La sélection des élites sportives de demain

Le domaine de la détection et de la sélection des élites sportives dès le plus jeune âge a fait l'objet de nombreuses études. Le problème se pose de façon encore plus aiguë lorsque l'on voit de plus en plus de jeunes athlètes encore adolescents rivaliser l'os de leurs aînés avec des athlètes dans des disciplines exigeant pourtant endurance, résistance, concentration, confiance en soi, en plus des qualités techniques inhérentes au sport. Cest surtout valable pour le sport féminin. Ces dernières années ont vu une multitude de jeunes gymnastes, nageuses, joueuses de tennis ou plongeuses cumuler les podiums olympiques et mondiaux ou s'attribuant les grandes compétitions internationales tant sur les plans personnel que professionnel.

Cette élection de jeunes talents n'a été faite que par une méthode de détection de leur potentiel de compétences et d'un entraînement adéquat.

L'article de Boms et Fisher s'attache à la recherche des différents facteurs et paramètres intervenant dans les critères de sélection possibles. Les considérations d'ordre psychologique et social y sont également largement abordées ainsi que le problème délicat de la reconversion des athlètes en fin de carrière sportive.
At the end of the championship the president of the PTC Military Pentathlon, Colonel Hans Georg Seitz expressed his sincere thanks to the organizers of the Pionierschule in München on behalf of all the participants for the excellent manner in which the competition was organized and for the cordial hospitality. It was also the opinion of the CISM official representative Colonel Arthur Zechnner that because of the good organization and the fact that all the nations have done their good share this championship was carried out without having to deal with difficult protests and in a friendly and sportive atmosphere.

This championship was very exciting till the end, particularly due to the individual and team result of Brazil and China. Every individual and team was confronted with unexpected good and bad results through which the places in the classification changed continuously, one of the good elements of military pentathlon.

Individual champion was the sympathetic Bandeira of Brazil and also the team of Brazil became winner with a few points more than the team of China.

The Military Pentathlon family will retain very good memories of the competition and the stay in München. The next championship will take place in Norway. For the first time, women will take part in the competition, a new development in military pentathlon.
### Results

#### Final individual classification

*General classification*

1. R. Bandeira (BRA) 5.485,2  
2. X. Liang (CHN) 5.451,7  
3. L. Aragao (BRA) 5.439,5

*Classification by events*

**Shooting**

1. D. Maurilio (BRA) 1.126,0  
2. R. Bandeira (BRA) 1.112,0  
3. D. Bickert (FRG) 1.106,0

**Obstacle run**

1. K. Nienaber (FRG) 1.170,1  
2. V. Aragao (BRA) 1.167,3  
3. G. Nenancio (BRA) 1.163,8

**Swimming**

1. P. Sturkenboom (HOL) 1.144,0  
2. X. Kiang (CHN) 1.134,4  
3. R. Kaizinger (FRG) 1.132,0

**Grenade throwing**

1. X. Guo (CHN) 1.130,8  
2. D. Vold (NOR) 1.116,0  
3. B. Björndund (SWE) 1.100,4

**Cross-country**

1. C. Giyn (IRL) 1.085,3  
2. M. Umlauf (FRG) 1.068,8  
3. L. Aragao (BRA) 1.058,4

#### Final team classification

1. Brazil 21.671,2  
2. China 21.641,3  
3. Sweden 21.180,0

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Official representative: Colonel A. Zechner (Austria)

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*LA VIE AU CISM - LIFE IN CISM*
## Manifestations mondiales: 1991

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## Réunions

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Military Sports Schools

Following the article published in the preceding issue of Sport International (N°83), we now present the Spanish, Canadian and sports schools as well as the military high mountain school of Chamonix (France).

The Military High Mountain School Chamonix - France

Text and photographs by Captain Donzey of the Military high Mountain School

The Military High Mountain School (E.M.H.M) was founded in 1958 by General Desse who appointed Captain Pouchier as its head, famous mountainer and forerunner of the training methods in the mountains.

For about 60 years, the E.M.H.M. has trained all the leaders of the French Alpine units. Today, it carries out four main types of missions.

1. - The training of approximately thirty non-commissioned officers of the infantry each year. They will be later assigned to the alpine troops or to specialized centers. Those young non-commissioned officers will then become skiing instructors or high mountains guides in the alpine battalions. Their training is twofold: military training for their instruction as non-commissioned officers of the infantry and mountain training to become skiing instructors or guides.

2. - The second mission is intended for mountain training only; it aims at training all the leaders of the "27th Alpine Division", of the mountain police forces and also some leaders from other services and from foreign armed forces into the alpine technique in the winter as well as in the summer time. Seventeen thousand clinic days are to be organized in 1980.

3. - The third type of mission includes the training of the sports elites and prestigious operations. The French military skiing team, part of the battalion of Joinville comprises forty athletes. This team has of course won most of the titles of France champion but also made a name for itself on the international scene: 12 medals at the CISM world championships of Jericho (USA) in 1989. Lastly, France relies on them a great deal to have men and women on the Olympic podium of Albertville in 1992 in the biathlon and long distance skiing competitions. The "Groupement militaire de haute montagne" (GMHM) (Military mountaineering squadron) is a small team of high-level mountaineers who carry the colours of the French Army to the highest summits of the world. It organizes one or two expeditions each year with the aim of ascending mountains by unused routes. In 1989 GMHM conquered the north face of the Indrasan (8221 m) in India through the unused route. In 1988, it reached the top of the Huascaran (6768 m) in Peru. Lastly, it carries out experiments on paragliding jumps from those summits and on hang gliding.

4. - There are many subsidiary missions for E.M.H.M., they consist of experimenting mountain protection equipment against the cold as well as testing new techniques in all those fields.

As can now be seen, the Military High Mountain School is familiar with all topics related to mountains. As a modern school that keeps up with progress and sometimes anticipates it, it trains mountaineers, soldiers, men fit for the supervision of the alpine units in time of peace as well as in time of conflict.

MILITARY SPORTS SCHOOLS

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Canadian Forces School of
Physical Education and Recreation

Text and photos: Lieutenant Commander H.J. RUSSEL

The Canadian Forces School of Physical Education and Recreation (CFSPER) was established in 1967 upon the unification of the Royal Canadian Navy, the Canadian Army, and the Royal Canadian Air Force. At that time, the Naval School of Physical and Recreational Training (Cornwallis, Nova Scotia), The Army Physical Training Centre (Borden, Ontario) were amalgamated to form one school, called the Canadian Forces School of Physical Education and Recreation.

The CFSPER crest, illustrated above, was approved in 1974 and features a centre design that symbolizes a person in motion in many activities. The physical activity is represented by the figure, which, when turned in any position, is in action and could represent a number of sports. The design is surmounted by the crown and is surrounded by two learning torches, common to all schools in the Canadian Forces Training System, which represent the education process. The design is underlined by the Physical Education and Recreation Branch Motto, "mens sana in corpore sano", which means "a sound mind in a healthy body".

CFSPER is located at Canadian Forces Base Borden, Borden Ontario. CFSPER is responsible for training the five hundred (500) Physical Education and Recreation Instructors and Officers for the Canadian Forces. Physical Education and Recreation Instructors and Officers are selected personnel who are professionally qualified, highly motivated, and specially trained to provide the leadership, training and education necessary to meet physical, mental, emotional, spiritual and social wellbeing needs of contemporary lifestyles in the military community. CFSPER also conducts Physical Education and Recreation trade and specialty courses, such as Nordic Ski Instructor courses, Ice Maker courses, and Recreation Activity Leader courses.

In conjunction with this primary role, CFSPER is tasked to provide Physical Education and Recreation services to all CFB Borden Integral and Lodger units, as well as providing recreational services to a military community of approximately 4,000. Community and recreation services consist of 42 clubs, ranging in interest from horseback riding and windsurfing to automation and wood hobby.

To accomplish these missions, CFSPER's staff consists of 39 Physical Education Recreation Instructors (PERI's) & Physical Education Recreation Officers (PERO's), and 5 fulltime civilian personnel. This staff is augmented by approximately 200 volunteer staff.

The Physical Education and Recreation Facilities at CFB Borden consist of 2 golf courses, 1 bowling alley, 1 curling rink, 4 gymnasiums, 2 outdoor pools, 1 indoor pool, 10 tennis courts, 2 indoor squash courts, 10 ball diamonds, 8 soccer pitches, 2 arenas, 2 outdoor running tracks, a fitness trail, a crosscountry skiing/ski/running trail, as well as outdoor volleyball courts.

MILITARY SPORTS SCHOOLS

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