



FIFA

founded 1904

FÉDÉRATION INTERNATIONALE DE FOOTBALL ASSOCIATION

**FIFA/Coca-Cola Cup -
II World Youth Championship -
Mexico 1983**

Final Competition

Technical Report

**Mexico
2-19 June 1983**



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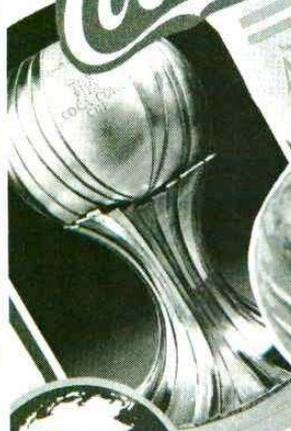
Peter Robinson, England, and Thomas von Ubrizsy, FIFA

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Coca-Cola

ASOCIACION DEL FUTBOL ARGENTINO

AUSTRALIA



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ÖSTERREICH
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MEXICO



THE USSR
VISTA DEPORTIVA





Introduction

FIFA is continuing the series of its publications on official FIFA competitions with this Technical Report on the World Youth Championship for the FIFA/Coca-Cola Cup in Mexico in 1983.

Ever since "España 82" and Mexico's assignment as venue for the 1986 World Cup, the world of football is increasingly concentrating its attention on the country to stage the next World Cup. The Technical Study Group of FIFA has tried to take this need for information into account with detailed analyses on the various aspects of preparations and conditions for the competition in Mexico. In retrospect, may this Technical Report help those countries having participated in the World Youth Championship obtain an overall analysis and, in the future, be of assistance in long-term decisions and plans for the 1986 World Cup.

A positive development in the playing standard of the FIFA World Youth Championship has been observed in the past years; this ascertainment justifies the decision of the FIFA Executive Committee to organise such world championships ever since 1977 and to realistically prepare youth footballers for high-level performance.

Thanks to the positive encouragement of the National Associations and the cooperation of the Confederations, this competition has become very important, as can quite often be seen in the composition of a national "A" team already.

There was a great onrush of crowds particularly at the games in Mexico, played with youthful drive and temperament, still free of any technical manipulations.

The decision to organise a World Youth Tournament for under 16 players seems logical when casting a critical glance back at all World Youth Championships since 1977.

As the biggest umbrella organisation in sports, it is FIFA's duty to give new impetus to the healthy ambitions of millions of young footballers so desirous to play.

Being so deeply involved with youth of all ages and levels, FIFA thereby warrants the future development of our game, football.

J.S. Blatter, FIFA General Secretary



Preface

I am very anxious to seize this opportunity to recall my idea when this competition was created in 1977. Indeed, I keenly wanted to give the possibility to Third World countries—which take a long time at playing a dominating role in the world of football—of finding a compensation and a springboard. More than once, it has been proved that FIFA strongly wanted to encourage the development of this marvellous sport: football in the most faraway and neglected parts of the world.

Thus, the fantastic youth competition on a world scale continued growing. After the first steps taken on African soil (Tunisia) in 1977, Asia (Japan) in 1979 and Oceania (Australia) in 1981, the second series—of what has become the FIFA World Youth Championship for the Coca-Cola Cup in the meantime—has just taken place in Central America: in Mexico—the country to host the next FIFA World Cup in 1986.

It is a fact and I would like to give my opinion on the matter—that FIFA and the Mexican Football Federation were very proud about the achievements in Mexico in June 1983. Once more, I am emphasizing that we were right in choosing this magnificent country,

where each inhabitant staunchly defends the good cause of football.

This second World Youth Championship greatly exceeded our forecasts. Indeed, it deserved those unforgettable crowds and the inborn passion of the proud and likeable Mexican people. Once again, we could discover and appreciate new talents, true riches. Apart from some exceptions, the matches played were of a remarkable standard worthy of a World Cup; one could remark above all enthusiasm, dynamism and a formidable quality of play. However, at the same time, different traditions and contrasts in style, conceptions of the game and temperaments were respected.

The 1983 World Youth Championship has known an extraordinary success. Now if this were my only source of satisfaction, it would be very difficult for me to refrain from showing my gratitude to all those who worked in this enterprise. To Mr Harry H. Cavan as Chairman of the Organising Committee and to the members of that Committee—assisted by Mr J.S. Blatter, FIFA General Secretary, Mrs Liane Alban Teuscher, responsible for the project and the competition's realisation as well as all the FIFA staff—on a technical and administrative level, I address my thanks and sincere gratitude.

Particular mention should be made of The Coca-Cola Company for its generous contribution towards the realisation of the project. Without its financial support it would not have been possible to set up a competition of such a scale.

However, before concluding my laudatory words on this 2nd FIFA World Youth Championship for the Coca-Cola Cup, I would like to thank once again and very warmly congratulate the President of the Mexican Football Federation, Dr. Rafael

del Castillo Ruiz, our Vice-president Guillermo Cañedo who was constantly at our side in order to give all his support and the members of the Organising Committee. Thanks to their illimited aid and co-operation, we could make this sublime event a great success. Thank you once again all of you. I am already looking forward to seeing you once again at the 1986 World Cup.

Dr. João Havelange
President of FIFA



Introduction

The undoubted success of the football educational courses, Projects 1 and 7, organised by the FIFA Technical Committee over the recent past years has been reflected in the outstanding progress and playing results of the developing countries in the FIFA World Championship and the FIFA/Coca-Cola World Youth Championship. This positive and constructive progress has been reinforced by the excellent contribution made by the members of the Technical Study Groups and which has produced first-class reports of the major football competitions, organised by the FIFA. These reports, ever-changing in style and patterns, provide the information and technical detail of the training and preparation of the competing teams and also of the tactical plans adopted in their quest for success.

The Technical Study Groups appointed by FIFA are composed of experienced team managers/trainers and qualified football coaches. Their reports are designed to assist National Associations to organise and prepare programmes for football educational courses. It is therefore imperative that copies of this Report are made available to National Coaches at all levels, so as to ensure that the up-to-date information and advice is available

to maintain the progress and development of football all over the world.

I would take this opportunity to convey the best thanks of the FIFA Technical Committee to the members of the Technical Study Group for their excellent work done during the World Youth Championship for the Coca-Cola Cup in Mexico in June 1983. Also, to express appreciation to the officials of the competing teams for their assistance and cooperation with the Technical Study Group.

Harry H. Cavan, OBE
Chairman, Organising Committee
*FIFA/Coca-Cola World Youth
Championship*



Preface

It was the idea of our concerned President of FIFA, Dr. João Havelange, to give youth football maximum impetus and so, with the coordination of The Coca-Cola Company, he launched the 1st World Youth Tournament by invitation in the beautiful, legendary city of Tunis in 1977. With this brilliant Tournament, Dr. Havelange projected a different kind of football at a superior level, football with great individual and collective technique, yet football full of devotion and passion. Youth football.

In 1979, or in Tokyo, Japan to be exact, the 2nd Tournament was held by invitation. This saw the emergence of star players who later participated in the 1982 World Cup in Spain.

In that incomparably beautiful, faraway country, Australia, the 1st World Youth Championship for the FIFA/Coca-Cola Cup was held in 1981. This logically reaffirmed the brilliant idea of our top executive, and it has now reached a high degree in world footballing standards.

As Dr. Havelange has so well expressed on various occasions, this Championship has become the 2nd in importance to be organised by FIFA and without wishing to sham modesty, a high standard of organisation, technical

strength and quality has been reached in my country. Over 1.3 million spectators filled the stadia in our 7 seats: Mexico D.F., Guadalajara, Monterrey, Puebla, León, Irapuato and Toluca. At the opening in Mexico City, there were 124,000 spectators and over 20,000 outside the stadium, who could not enter to attend the match. There were games of undeniable technical quality, such as that played in Monterrey between the teams of Brazil, the champions at the event and South Korea, that of Australia and Mexico, Uruguay v Poland, Argentina v New Zealand etc.

We are sure that the World Youth Championship for the FIFA/Coca-Cola Cup has struck deep roots, that its success will be permanent and that the efforts of Dr. Havelange, the executive members of FIFA and all those of us who intensely love football will represent for us the ideal already achieved and the pleasure of being able to see unlimited football still with the idea that the colours on the jerseys should match the hearts of these young and brilliant footballers.

Lastly, my respect and admiration goes out not only to the 16 teams which played in this 2nd World Youth Championship but also to all those affiliates of FIFA who dropped out along the way yet as we know fought with honesty, quality and efforts in order to achieve triumph.

Dr. Rafael del Castillo Ruiz
President Mexican Football Association



The unforgettable sight of two vast crowds packing Mexico City's Aztec Stadium to the rafters for the opening and closing matches of the FIFA/Coca-Cola Cup.

The rich feast of international football laid before us by 16 teams of young men representing every continent.

And the colourful excited presence of 1.2 million spectators — about 4 times the previous record — for the 32 matches of the World Youth Championship.

These are the memories we retain so vividly from this prestigious event our Company has the great honour and pleasure to sponsor.

The FIFA/Coca-Cola Cup, a mere fledgling as recently as 1977 in Tunisia, has grown through Japan in 1979 and Australia in 1981 to take wing so magnificently in Mexico.

There have been exceptional performances in the brief history of the Championship and fine champions in the Soviet Union, Argentina and the Federal Republic of Germany.

But never before has there been such a broad spread of talent on show, so high a level of competition.

That is why we readily congratulate the new champions of Brazil for having surmounted the sustained determined challenge of highly skilled rivals.

The Championship is the show piece of our partnership with FIFA which is based, too, on a series of international educational projects designed to speed the advance of the game in the less developed football countries.

It is an exciting concept. For its aim is real world competition with a genuine challenge from all corners of the earth.

The FIFA/Coca-Cola Cup in Mexico has proved the idea to be more than a dream ... especially through the remarkable performance of Korea Republic in blazing a glorious path to the semi-finals.

The traditionally strong football countries are also finding the FIFA/Coca-Cola Cup a valuable training ground for their World Cup ambitions.

It is here that their young men can sharpen their skills and competitive instincts and widen their international experience for the ultimate challenge ahead.

More than 30 players from the 3 previous FIFA/Coca-Cola Cups were included in their countries' World Cup squads in Spain last year, including such major stars as Vladimir Bessonov of the Soviet Union and Diego Maradona of Argentina, both voted Best Player of the FIFA/Coca-Cola Cups of 1977 and 1979.

Who is to say that Geovani Silva, who won that award in Mexico and whose goal against Argentina won the trophy, and others, will not follow them in 1986?

The Coca-Cola Company congratulates the Organising Committees of FIFA and the Mexican Football Federation for the degree of organisation that ensured the success of the Championship.

The FIFA/Coca-Cola Cup gave us enormous encouragement and served to strengthen our desire to give it our full support in the future.

E. Van Steeden
Vice-president
The Coca-Cola Export Corporation

FIFA/Coca-Cola Cup World Youth Championship FIFA Delegation

(28.5.1983)

1. FIFA

Dr. João Havelange (Brazil), President
J.S. Blatter (Switzerland), General
Secretary

2. World Youth Championship Committee

Harry H. Cavan (Northern Ireland),
Chairman
Dr. V. Koloskov (USSR), Deputy
Chairman
Rito Alcantara (Senegal)
Abilio d'Almeida (Brazil), also Referees'
Committee
Moayad Al-Badry (Iraq)
Dr. Teófilo Salinas Fuller (Peru)
Joaquín Soria Terrazas (Mexico)
Ydnekatchew Tessema (Ethiopia)
Sir Arthur George (Australia)
Hans Bangerter (Switzerland)
Peter Velappan (Malaysia)
Dr. Rafael del Castillo Ruiz (Mexico),
also Disciplinary Committee
Everwijn van Steeden, Observer: The
Coca-Cola Company
Liane Alban Teuscher (Switzerland),
Project Manager

3. Board of Appeal

Guillermo Cañedo (Mexico), Chairman
Hermann Neuberger (Germany FR)
Alfonso Senior (Colombia)
Dr. F. Hidalgo Rojas (Ecuador)

4. Disciplinary Committee

General Abdelaziz Mostafa (Egypt),
Chairman
Carlos Alberto Lacoste (Argentina)

5. Referees' Committee

Dr. Artemio Franchi (Italy), Chairman
Javier Arriaga (Mexico)
Miguel Galán (Switzerland)

6. Press Committee

Antoine Herbauts (Belgium), Head
Carlos Alberto Pinheiro (Brazil)
Christa Worgasch (Switzerland)
Thomas Ubrizsy (Switzerland)

7. Technical Study Group

Walter Gagg (Switzerland)
Heinz Marotzke (Germany FR)
José Bonetti (Brazil)
René Hüsey (Switzerland)
Billy Bingham (Northern Ireland)

8. Secretariat

Armin Rauber (Switzerland)
Helen Petermann (Switzerland)
Monique Banderet (Switzerland)
Ruth Hüppi (Switzerland)
Norma Kurmann (Switzerland)

9. Guests of Honour

Sir Stanley Rous and Ms R. Breitenstein
(England), Honorary President of FIFA,
as from 10 June 1983
Juan Antonio Samaranch, IOC Presi-
dent, for finals only
Gary Hite, The Coca-Cola Company
Frank Bean, The Coca-Cola Company



MEXICO 83

TOMBOY HAMBURGUESAS

adidas

Barclays

McDonald's

Historical Review of the World Youth Championships 1977—1983



Participation within Confederations



	AFC	CAF	CON CACAF	CON MEBOL	OCEANIA	UEFA
1983	20	24	13	10	4	25
1981	19	19	20	10	4	27
1979	22	19	19	10	4	27
1977	16	19	20	10	4	19

A Historical Review of the World Youth Championships and their Importance in the Development of Players and Teams

The analysis of the World Cup in Spain presented at some length an evaluation of the World Youth Championships and their role in the development of national teams. It must be pointed out, however, that the 16 teams taking part in the World Youth Championship represent only the tip on this new development.

Statistics showing participation in World Youth Championships since 1977 point out an increasing trend. The benefit lies in the broadening effect with the associations, since participation promotes earlier talent-scouting and development, and thus brings talent earlier to the national team.

It will be interesting to see which players from the teams involved in the World Youth Championship this time manage to attract the attention of the national team.

Statistics from the 1982 World Cup show that qualified youth players need to mature for several years before becoming full members of their national teams.

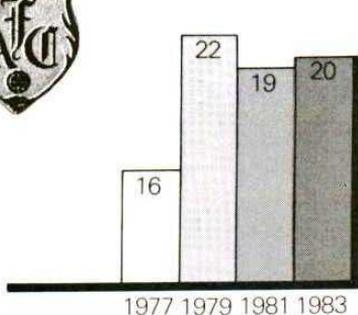
It will be shown in the following section, that just as the *national teams* benefit from this new FIFA competition, the *clubs* also profit from having players in the World Youth Championships, since youthful players will be brought earlier to peak levels and also be given the opportunity to gather valuable international experience, which will eventually be for the good of the *clubs* in which these players often do not yet command a regular place.

The following list of the best players and top goal-scorers of the World Youth Championships also lists the clubs in which they now play, and underlines the value of these championships for club football (diagram 4).

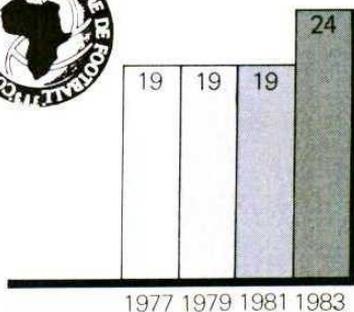
This needs to be stated here, since enquiries carried out among team officials during the World Youth Championships indicated frequent problems in obtaining the release of players for the championships themselves, or for preparatory training.

This apparently selfish attitude on the part of the clubs does not seem to recognise the benefits that they themselves will reap, thanks to the efforts of the national associations, the confederations and FIFA.

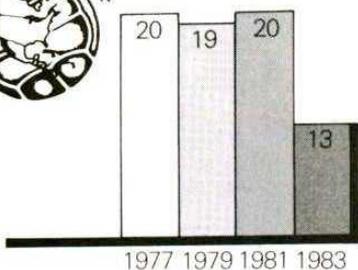
AFC (Asia)
37 Associations



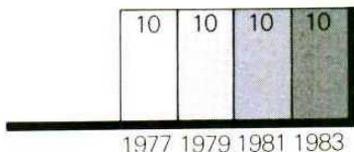
CAF (Africa)
42 Associations



CONCACAF (North/Central America and Caribbean)
23 Associations



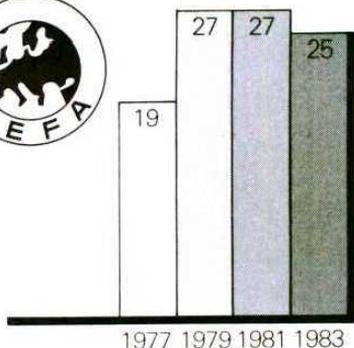
CONMEBOL (South America)
10 Associations



OCEANIA
4 Associations



UEFA (Europe)
34 Associations





1977 URSS

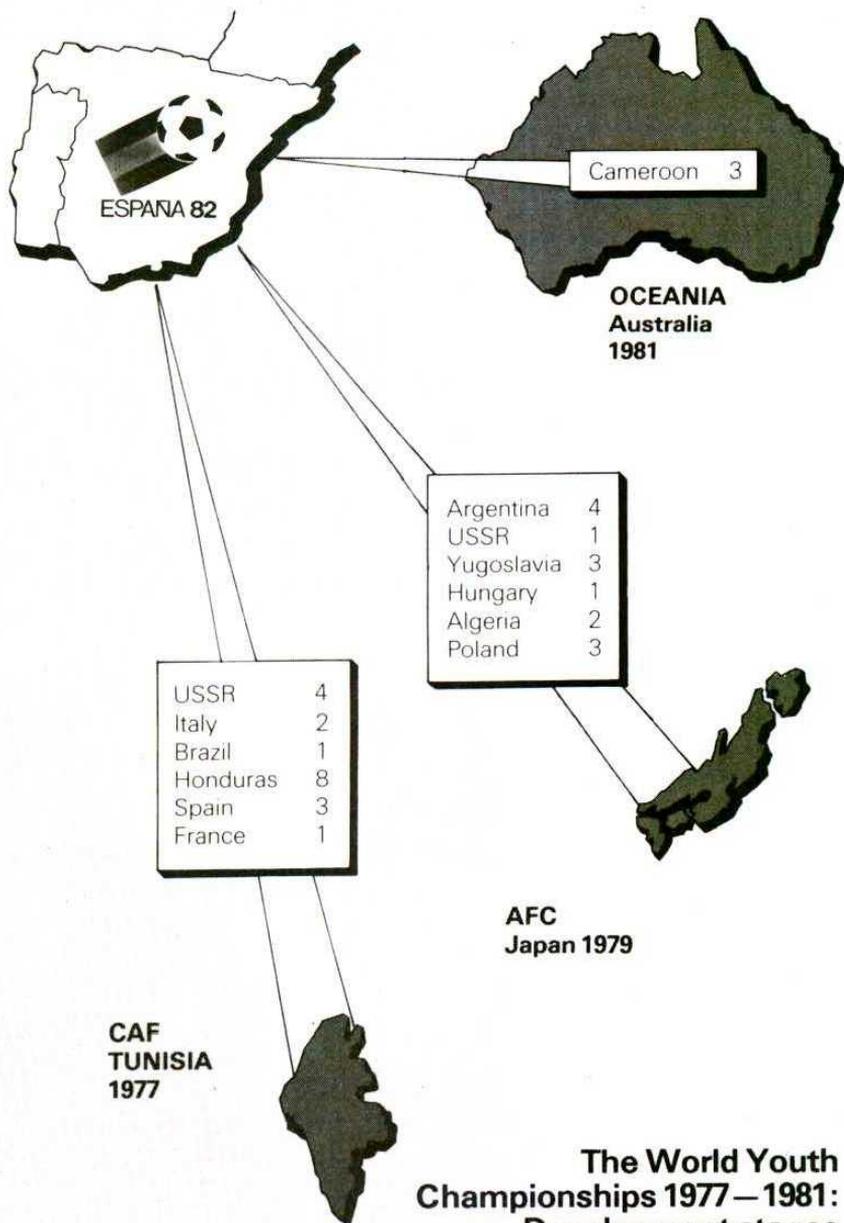


1979 Argentina



1981 RF de Alemania





The World Youth Championships 1977–1981: Development stages of the National Teams with the example of the 1982 World Cup in Spain.



adidas «Golden Ball»
The best players

TUNISIA 1977

1	Bessonov	USSR	Midfield	Dynamo Kiev
2	Junior	Brazil	Attacker	CR Flamengo
3	Cleber	Brazil	Attacker	Conf. Bras. Futeb.

JAPAN 1979

1	Maradona	Argentina	Inside Forward	Boca Juniors
2	Romero	Paraguay	Inside Forward	N.Y. Cosmos
3	Diaz	Argentina	Attacker	River Plate

AUSTRALIA 1981

1	Gabor	Rumania	Attacker	FC Corvinul Hunedoara
2	Zorg	Germany FR	Defender	Borussia Dortmund
3	Wohlfahrt	Germany FR	Attacker	MSV Duisburg



adidas «Golden Shoe»
The best goal-scorers

TUNISIA 1977

1	Quina	Brazil	Attacker	4
2	Hussein Said	Iraq	Attacker	3
3	Placencia	Mexico	Attacker	3

JAPAN 1979

1	Diaz	Argentina	Attacker	River Plate	8
2	Maradona	Argentina	Inside Forward	Argentina Juniors	6
3	Palasz	Poland	Attacker	KS Gornik Zabrze	5

AUSTRALIA 1981

1	Koussas	Australia	Attacker	Sydney Olympic	4
2	Amer	Egypt	Attacker	National Kairo	4
3	Lose ¹ /Wohlfahrt ² /Gabor ³		Attacker		3

¹ Borussia Dortmund ² MSV Duisburg
³ FC Corvinul Hunedoara

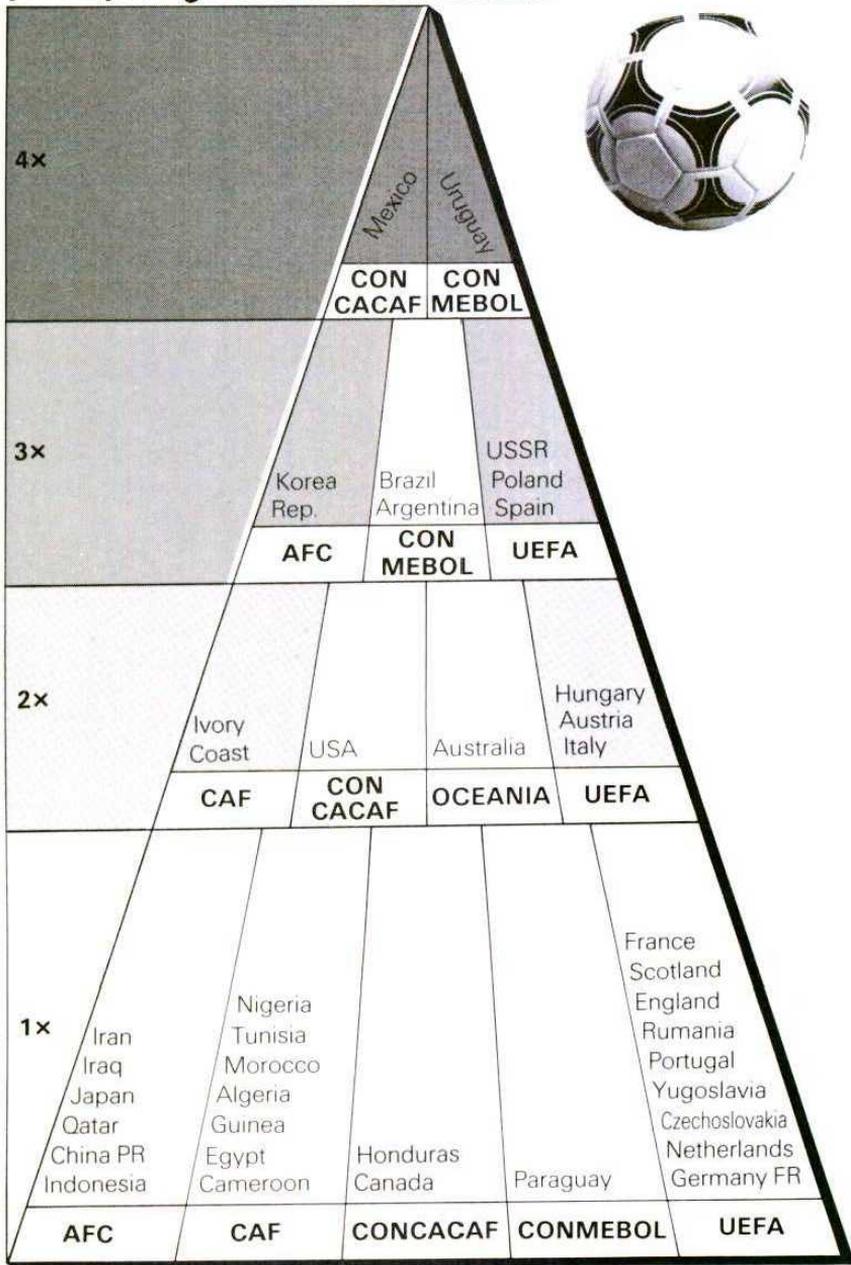


Organisation of Youth Football



**Within Confederations
Within National Associations
Guiding National Youth Teams**

Pyramid divided up into Confederations and participating National Associations



Organisation of Youth Football within Confederations

Not all national associations and confederations attach the same value to the promotion of youth football. This can be traced back to a variety of reasons, to which reference will be made in the course of this analysis.

The diagram shows the frequency of participation of the same national associations and confederations in the World Youth Championships since 1977 (diagram 5).

Closer study reveals the greatest fluctuations in the national associations attached to the confederations UEFA, CAF and AFC. However, it should also be noted that these confederations have the largest numbers of member associations, with many teams of approximately the same standard, so that repeated qualification is not easy to achieve. Bearing this in mind, the qualification of the Koreans on three occasions is all the more remarkable.

In the CONCACAF and CONMEBOL areas the dominance of certain national members is all too obvious: Mexico and Uruguay (4 times), Argentina and Brazil (each 3 times) (diagram 6).

In this respect one aspect is of decisive importance, and that is the varying standard between the different nations within these confederations, which is due to the strong infrastructure and professionalism of the larger associations.

		1977	1979	1981	1983
AFC	China PR				
	Korea Rep.		■	■	■
CAF	Ivory Coast	■			
	Nigeria				
CONCACAF	Mexico	■		■	■
	USA			■	
CONMEBOL	Argentina		■		
	Brazil	■		■	■
	Uruguay	■		■	■
OCEANIA					
	Australia				
UEFA	Austria				
	Czechoslovakia				
	Netherlands				
	Poland		■	■	
	Scotland				
	USSR	■		■	■

The parallels to the World Cup 1982 become even more striking if a similar pyramid is constructed based on a points system using the following ratings (Winner 20, 2nd place 18, 3rd place 16, 4th place 14, 1/4 final 10, 1/8 final 5 points) (diagram 8).



Tunisia 1977

1	USSR
2	Mexico
3	Brazil
4	Uruguay
1/8 Finals	Iraq
	Austria
	France
	Honduras
	Hungary
	Iran
	Italy
	Ivory Coast
	Morocco
	Paraguay
	Spain
Tunisia	

Japan 1979

1	Argentina
2	USSR
3	Uruguay
4	Poland
1/4 Finals	Algeria
	Spain
	Paraguay
	Portugal
1/8 Finals	Canada
	Guinea
	Hungary
	Indonesia
	Korea Rep.
	Japan
	Mexico
	Yugoslavia

Australia 1981

1	Germany FR
2	Qatar
3	Rumania
4	England
1/4 Finals	Egypt
	Australia
	Brazil
	Uruguay
1/8 Finals	Argentina
	Cameroon
	Italy
	Korea Rep.
	Mexico
	Poland
	Spain
	USA

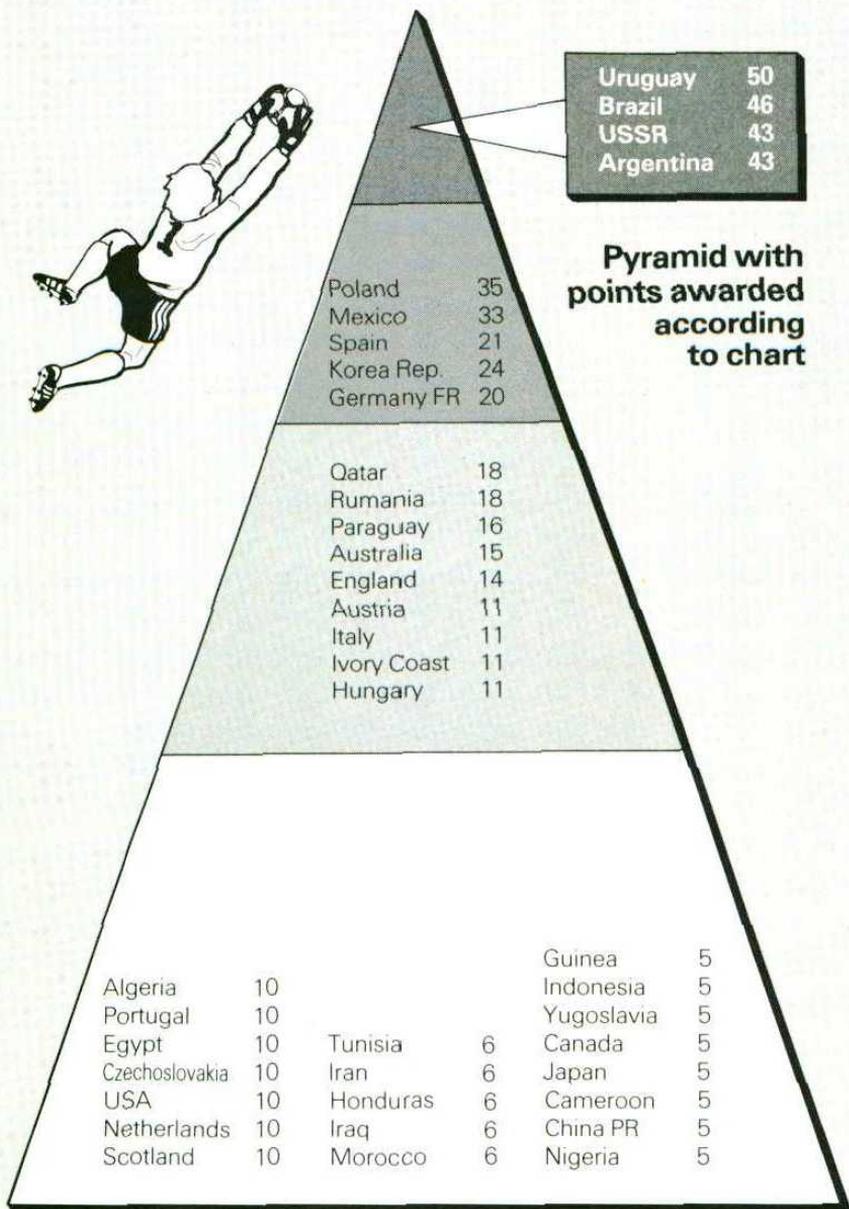
Mexico 1983

1	Brazil
2	Argentina
3	Poland
4	Korea Rep.
1/4 Finals	Netherlands
	Czechoslovakia
	Uruguay
	Scotland
1/8 Finals	Australia
	Austria
	China PR
	Ivory Coast
	Mexico
	Nigeria
	USA
	USSR

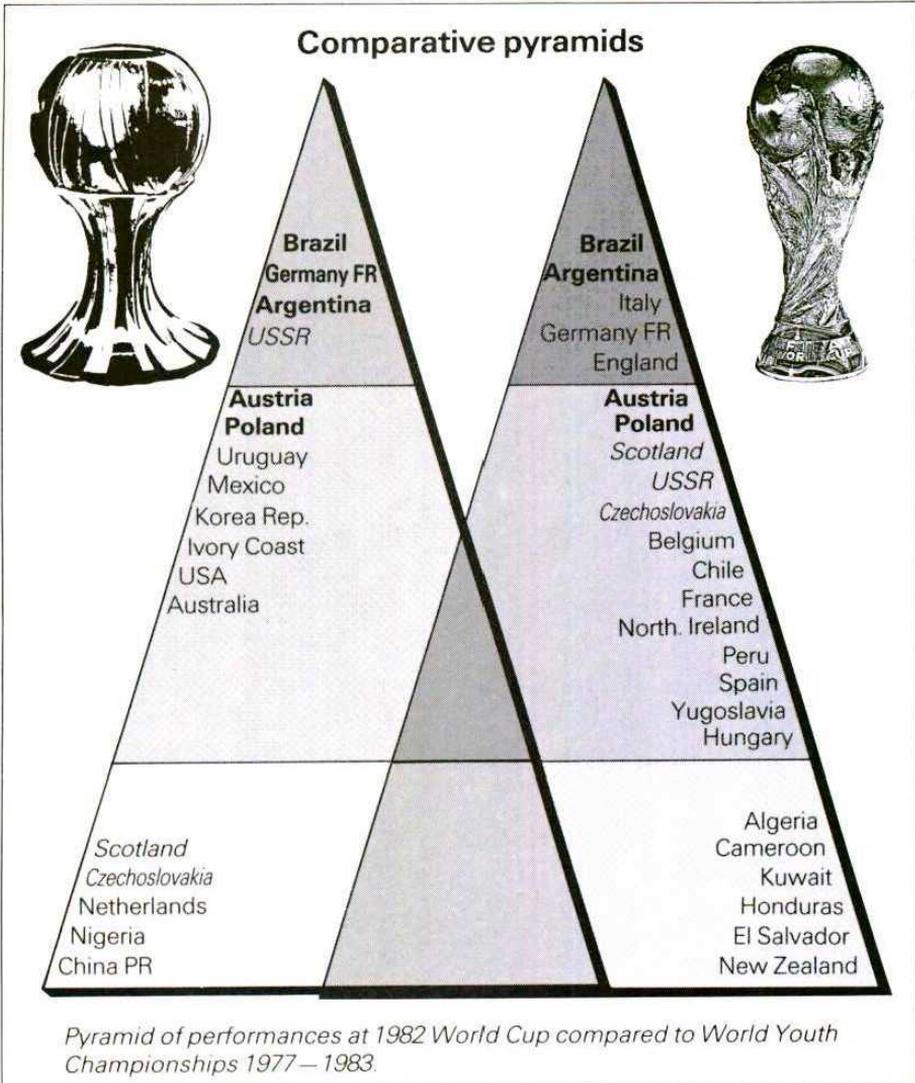


Uruguay	50
Brazil	46
USSR	43
Argentina	43

Pyramid with points awarded according to chart



If one looks at the teams' performances in terms of a pyramid, such as was presented in the World Cup report for Spain 1982, then certain parallels are noticeable.



Discussions with team officials during the 1983 World Youth Championship in Mexico indicate that they too make use of the statistics available for youth teams and players, as a means of providing another possible comparison with the senior sides. It also emerged that not all attached equal importance to this aspect, since the figures cannot be applied completely without prejudice.

Three factors play important roles:

1. The *total population* of the country, in which respect PR China, USSR, USA and Mexico are pre-eminent. But size itself can also create organisational problems, in talent scouting and development as well as in team preparation.

2. The *structure of the association*, which is responsible for official teams being entered in competitions. Without an infrastructure extending from the lowest to the highest junior age group, then there can be no official youth team recognised by the association.

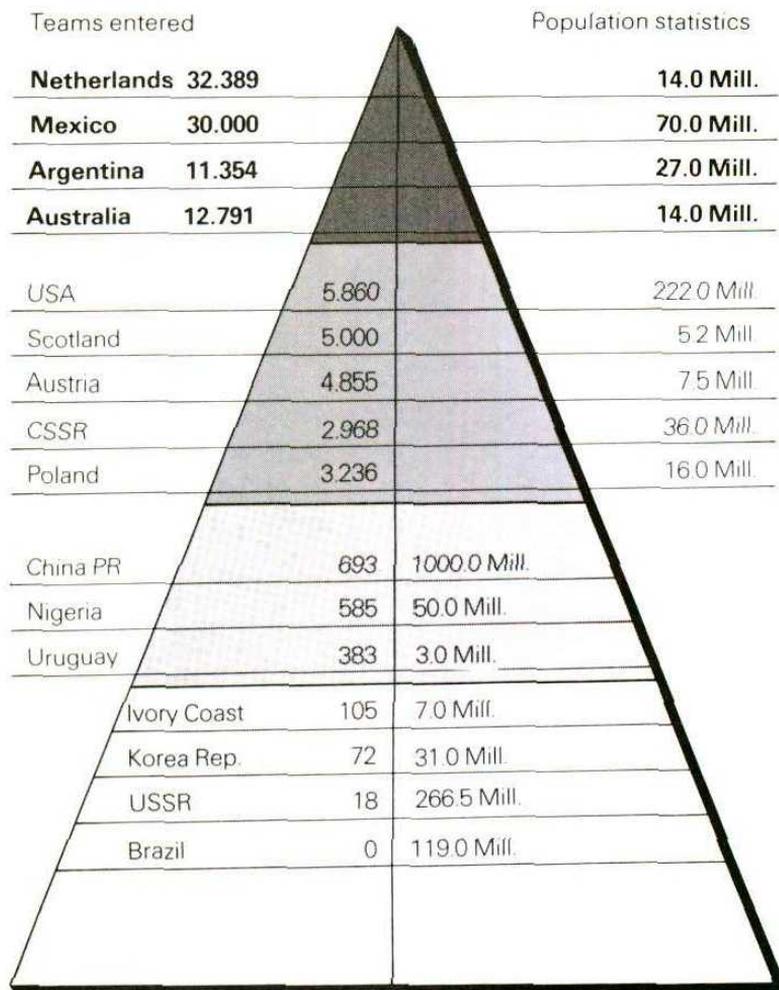
3. The *organisation* of youth football. Some countries with relatively low populations are to be found near the top of the pyramid e.g. Netherlands, Czechoslovakia, Austria, Argentina.

The reason for this is the organisation of the association, with close cooperation between club and association on the one hand and school and the ministry of education on the other, which is not yet the case in such countries as Ivory Coast and Nigeria (diagram 10).

In this connection the European statistics prove very interesting. According to calculations based on total population the following order emerges:

	Population	Players
Netherlands	14,106,000	68,355
Austria	7,520,000	33,926
Czechoslovakia	14,844,000	23,729
Scotland	5,229,000	20,845
USSR	260,662,000	17,823

This pyramid shows a comparison between total population of a country and organised youth football teams



Source: Teams registered and population figures according to indications in "National Associations of FIFA".

The Organisation of Youth Football Within National Associations

The analysis of the 1982 World Cup in Spain showed the importance of clubs and the form of their organisation into leagues.

The level of club football was once again reflected by the level of the national team in the majority of cases.

Similar tendencies have also been determined by studies at the youth level. However, it is not sufficient to state that the majority of the players at the World Youth Championships already belong to top clubs in their own countries. The reasons for this, and the effects thereof will be dealt with in detail in other sections.

The present concern is rather to produce an organisational pyramid showing the build-up from the very youngest age group up to junior level.

There are many reasons for the differences in developmental systems, which will be dealt with only briefly in this report (diagrams 11 and 12).

Strongly organised associations will have separate age categories, often beginning with 6 years olds, players progressing from one category to the next as they get older.

Club membership is a must, with coaches supervising training and matches.

In the light of modern methods, however, these apparent advantages are often seen as hindrances to proper development, rather than as encouragements.

Being subjected to rigid training too early can cause a player to lose originality, that is to say he will not be able to develop his own style and his own personality as a player.

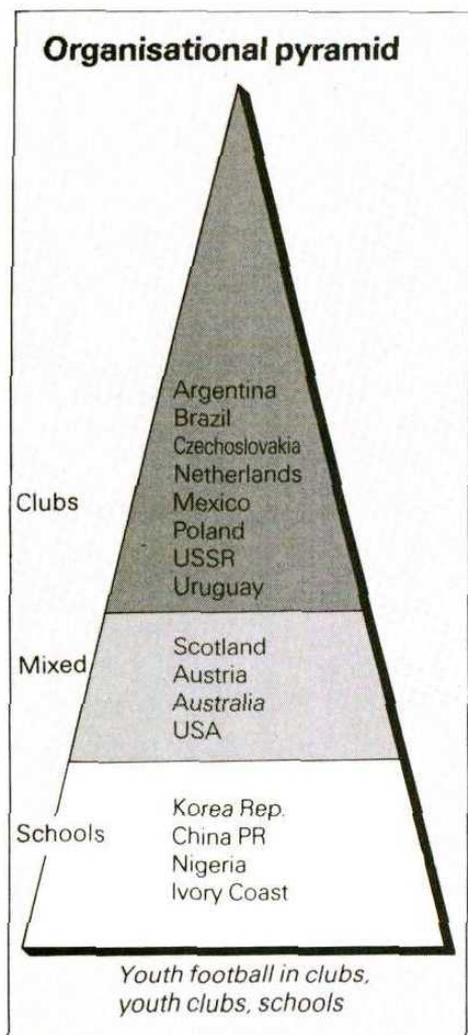
Those who criticise competition among the very young add the negative note that development of the desire, or compulsion, to win can cause inflexibility in a young player's attitude, hampering the development of his skills and leaving him moulded to one system or formation.

Using only the criterion of age to decide when a player moves up a category is shaky in terms of developmental psychology. The physical and mental development of young players speaks against it.

This point of view was expressed by the Netherlands, USSR, Czechoslovakia and Poland, in reply to enquiries carried out among the participating teams.

The emphasis placed on performance in the top leagues can thus have a negative effect at junior and youth levels. The negative aspects of these criteria should be investigated by competent youth leaders.

In the countries mentioned above, attempts are made to moderate this extreme development by simultaneously promoting school football. Of those nations represented in Mexico, Austria may be taken as an excellent example in respect of school football, or more exactly in the promotion of football as a school sport.



Further reference to this will be made in the following section where extracts will be quoted.

It should be stated here that even this form of organisation does not enjoy the undivided approval of organisers and coaches. Clearly the educational goals of the schools cannot place football in

the foreground; results must also be produced in other areas.

In this way young players are prepared for later challenges by both school and club.

The questionnaire also brought out another interesting fact. All the Asian and African teams participating — Korea Rep., PR China, Nigeria and Ivory Coast — unaminously named school and school football as the nucleus for the development of football.

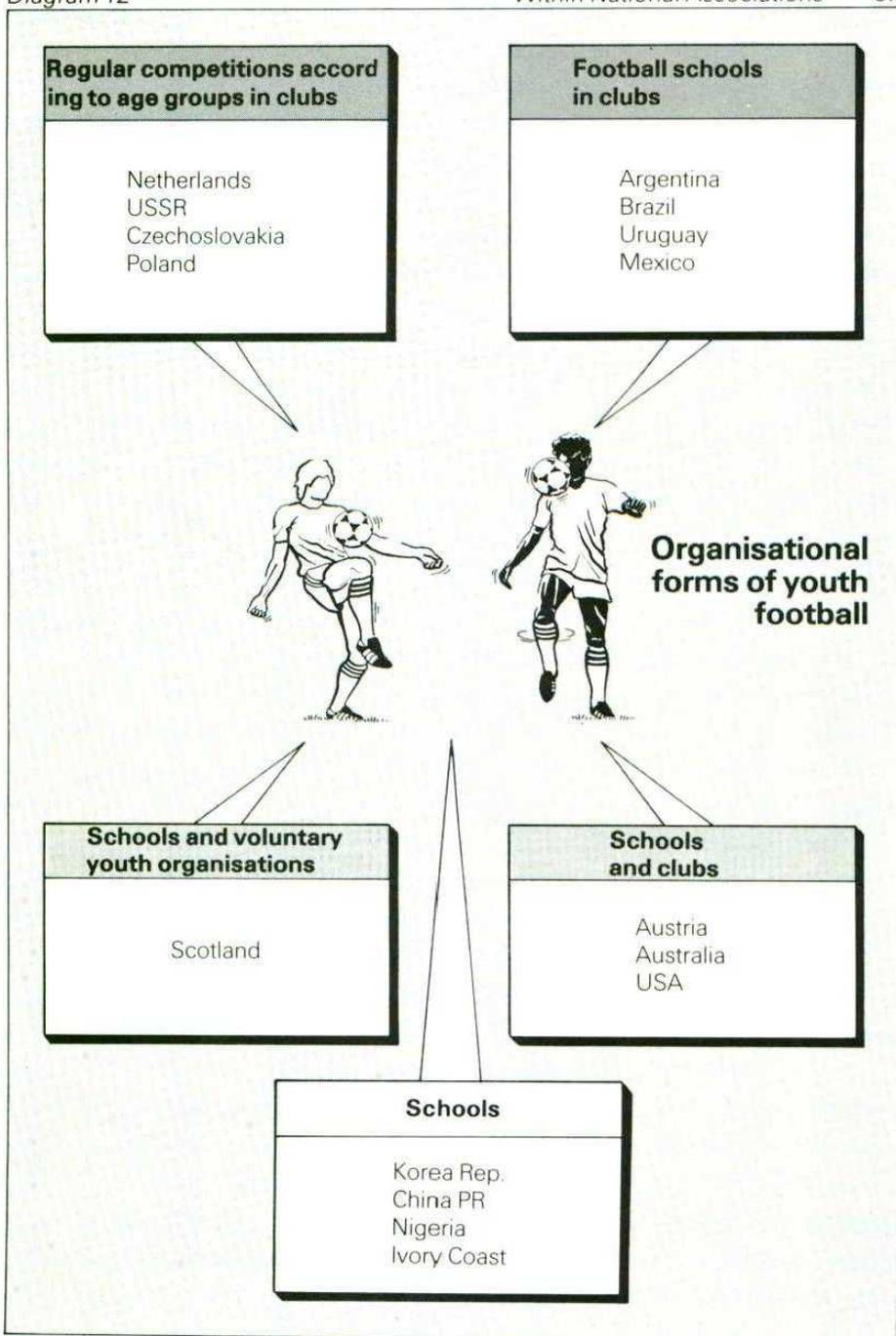
On closer examination this is not as surprising as it may seem, if one considers that it is there, in the schools, that sport, in this case football, can be developed around an existing structure.

The educational systems are older than the sports infrastructure, which has only recently been built up, and is gradually being extended from a central location out towards the edges of the country.

In those countries mentioned above there are weaknesses in the organisation of football at club and association level. Cooperation between schools and clubs could help remedy this, for example by using teachers as youth coaches.

This is not an ideal solution for the development of a high standard of football, since, just as in the second example (*Austria*) competition at the younger level is lacking.

The problem in these countries is caused by a lack of sporting facilities and equipment. How much the problem is compounded by competition for young talent from other sports (mostly individual sports of comparably high standards) is shown only for the case of PR China and table-tennis.



Schoolboy Leagues — a Model for School Sports

"How can you balance all the sporting success in the world against a ruined and overplanned childhood!"

This quotation is not from an unwordly philosopher as might be thought, but from a man who has had close contact with sport all his life, as player, instructor and official: Carl Diem.

These words are intended as a warning against the increasing tendency to apply to youths and children methods that have proved successful in the adult world.

Schools too have emphasised

- the need to discover talent early
- a wide basis of talent development

but they also stress the need for appropriate protective measures.

Based on this reasoning, efforts have been made within the school system to:

- encourage competition
- set up schools with an emphasis on sport
- provide instruction in such a form that it will constitute a basis for later development.

However, schools have other functions, more comprehensive goals, and their efforts must be considered in this broader context.

That was more or less the start of school league football, which also provided an example of a totally new form of cooperation. It was relatively easy to set up the sporting framework for the competitions, since suitable experience was available. What was new was the emergence of sponsors, wanting to support the enterprise. In the school system no advertising is allowed, so sponsorship was out of question. A solution was found by setting up a School Football Study Group, in which the education authority, the Austrian Football Association and the sponsors all worked together.

The details of the competition can be summarised thus:

1. Cooperation between school authorities and football specialists at national and local levels.
2. Generous support from the sponsors who provided equipment for the teams, made provision for organisational requirements and handled the necessary publicity details.
3. Whole-hearted support for the competition from the Minister of Education, the President of the Austrian Football Association and in particular from the media.

Thus the schools league had a terrific impact on the schools. In the 11 — 12 age range, boys only, about 20,000 pupils take part every year, and about 1,000 attend related courses.

However, this enormous popularity could itself have some negative effects: there are the dangers of one-sidedness and exclusivity, of the pressure to succeed and even of chauvinism. An ambitious coach might have no time for anything but the preparation of the team, might not use just the allotted time for team training but also incorporate training elements into normal physical education lessons. He could easily devote his time to the football players, neglect the others, get to think of nothing but football. Because the whole school could come to identify strongly with its schools league team, the expectations of many could put considerable pressure on teacher and team, the very kind of pressure that should be avoided at this age level. It adds an extra element of stress to school life. Teachers begin to treat the matter very earnestly; often too much so.

I remember the words that the trainer Stastny would always repeat at every course for instructing teachers: "Let the children play!"

4. As a typical exponent of the Anglo-Saxon style Scotland provides another variation for the development of young players.

Youth football there is run mostly by voluntary youth organisations and the schools. The top professional clubs organise very little for younger footballers.

However, the clubs have an indirect but vital influence even at this level, since their popularity and their image make a professional career seem very attractive to ambitious and talented young players.

Here we have a typical example of the effect of top level football in broadening and deepening the game's appeal, which is generated not only by the clubs but also by the performance of the national team.

5. Finally a look at the type of organisation found in the South American countries (Argentina, Brazil, Uruguay, Mexico) that were so successful in Mexico and other World Youth Championships. Here the development of football schools within the clubs proved itself an effective way of promoting young talent. Children, boys and youths are registered at early ages and go through a development scheme quite different in many respects from that found in Europe.

The following table presents an overview of the methodical aims set out for each age level in the course of the development of young players. The example comes from the development scheme run by the Football School of Club America, Mexico.

The Football School Illustrated by Latin American Example, here: Club America, Mexico



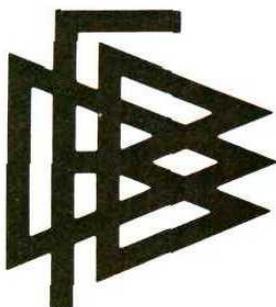
Yearly Programme for 1981/82 of Club America CA Football School

Preparation	Level 1: 4, 5, and 6 year olds	Level 2: 7 and 8 year olds
Technique	Receiving ball Running with ball Shooting Dead ball	Both legs—rolling, bouncing ball Best foot, both feet, control and dribbling Both feet, rolling, inside and outside of foot Throw-in and goal kick
Condition	Psychomotor Development Coordination, General Speed Manoeuvrability Introductory Gymnastics Bending and Tumbling	Feinting Passing Ball Control rolling, bouncing, throwing, pushing Volleying Manoeuvrability Introductory Gymnastics Free Exercises and Apparatus
Introductory Games	Individual in Pairs: Ropes, Posts, Balls a) b) c) d) e) f) in Groups: g) h) i) j) k) l)	Pursuing Manoeuvring and Balance with balls with ropes Strength and Flexibility Bats Post with Net with Ball 2 on 2 3 on 3
Rules	applied rules	applied rules
Evaluation	clinical, physical and technical	clinical, physical and technical
Equipment	No. 3 balls, posts, ropes, clothing	No. 3 balls, posts, ropes, clothing
Time per lesson	1 hour 30 minutes	1 hour 35 minutes



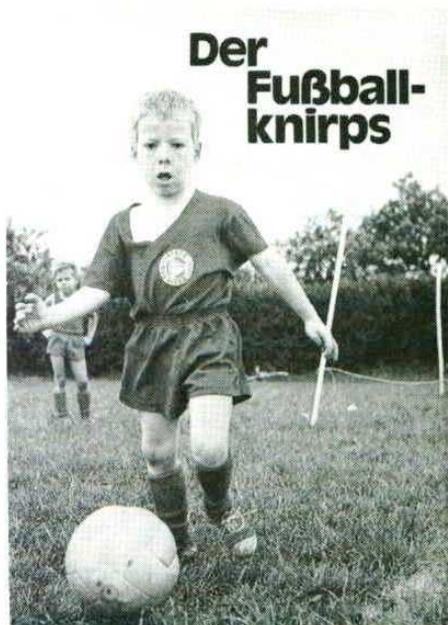
Level 3: 9 and 10 year olds	Level 4: 11 and 12 year olds	Level 5: 13 and 14 year olds
<p>Thighs – both legs – rolling, bouncing ball Thighs – both legs – ball control and dribbling Bouncing ball, half volley, inside and outside of foot Throw-in, goal kick, corner Changing direction with and without ball Team plays</p> <p>Forward play Defensive play</p>	<p>Feet, thighs, chest, head: rolling, bouncing, in the air Feet, thighs, chest, head: ball control and dribbling Volleying, heading: outside of foot, spinning Direct and indirect free kicks, penalties Before and after receiving passing – short, long, flat, high Running free Positions, lines, movements</p>	<p>Combinations</p> <p>dead ball – goal keeper – defenders feinting – mid field passing – forwards</p> <p>attacking play</p> <p>individual tactics team tactics stationary situations</p> <p>defensive play</p> <p>individual tactics team tactics stationary situations</p>
<p>Speed Manoeuvrability Strength Introductory athletics Running – speed Jumping – long jump Throwing</p>	<p>Strength Stamina Introductory athletics Short hurdle run High jump Throwing</p>	<p>Stamina Strength Manoeuvrability Speed</p>
<p>a) pursuit b) balance c) with balls d) with ropes e) strength and mobility f) baseball g) hockey h) volleyball i) tennis j) basketball k) handball l) indoor football</p>	<p>a) pursuit b) balance c) with balls d) with ropes e) strength and mobility f) baseball g) hockey h) volleyball i) tennis j) basketball k) handball l) indoor football</p>	<p>c) with balls d) with ropes e) strength and mobility f) baseball g) hockey h) volleyball i) tennis j) basketball k) handball l) indoor football</p>
<p>applied rules</p>	<p>applied rules</p>	<p>official rules</p>
<p>clinical, physical, technical</p>	<p>clinical, physical, technical</p>	<p>health, physical and technical</p>
<p>No. 4 balls, posts, ropes, clothing</p>	<p>No. 4 balls, posts, ropes, clothing</p>	<p>No. 5 balls, posts, ropes, clothing</p>
<p>1 hour 40 minutes</p>	<p>1 hour 45 minutes</p>	<p>1 hour 50 minutes</p>

Methodical training targets and development of the youth player as illustrated by a training specimen of the Deutscher Fussball-Bund (Germany FR Football Association)



	1st Period of Training				2nd Period of Training			
	6	7	8	9	10	11	12	13
	F Youth		E Youth		D Youth		C Youth	
Technique	(1) Football training for 6-10 year old beginners Forms of exercising and playing for kick at goal Forms of exercising and playing for dribbling and ball control Forms of exercising and playing for interchange of passes Interchange of passes Dribbling Kick at goal Exercises for getting used to the ball				(2) Football training for advanced players (10-14 years) Exercises and games for kick at goal Improving dribbling and ball control Improving interchange of passes Passing, being in position to receive ball, running into open space, seeking position for kick at goal Systematically learning technique Exercises for getting used to ball			
Physical Condition	Fitness training for 6-10 year-olds. Small games with and without the ball. Relay, running etc. Encouraging readiness to perform Acquiring knowledge Running, jumping, throwing				Fitness training for 10-14 year-olds Training uniformity for 10 to 14 year-olds Encouraging readiness to perform Broadening knowledge Special physical condition			
Tactics	Forms of exercising and playing to learn defence Basic techniques of goalkeeper's play and basic technique and conduct of field players in defence Conduct in defence				Measures for defence 1 1 (man-to-man marking) 5 2/3 2 (area marking) Training of goalkeeper Team-tactical conduct in individual positions Group-tactical conduct 2 2/3 3 Individual-tactical conduct 1 1			

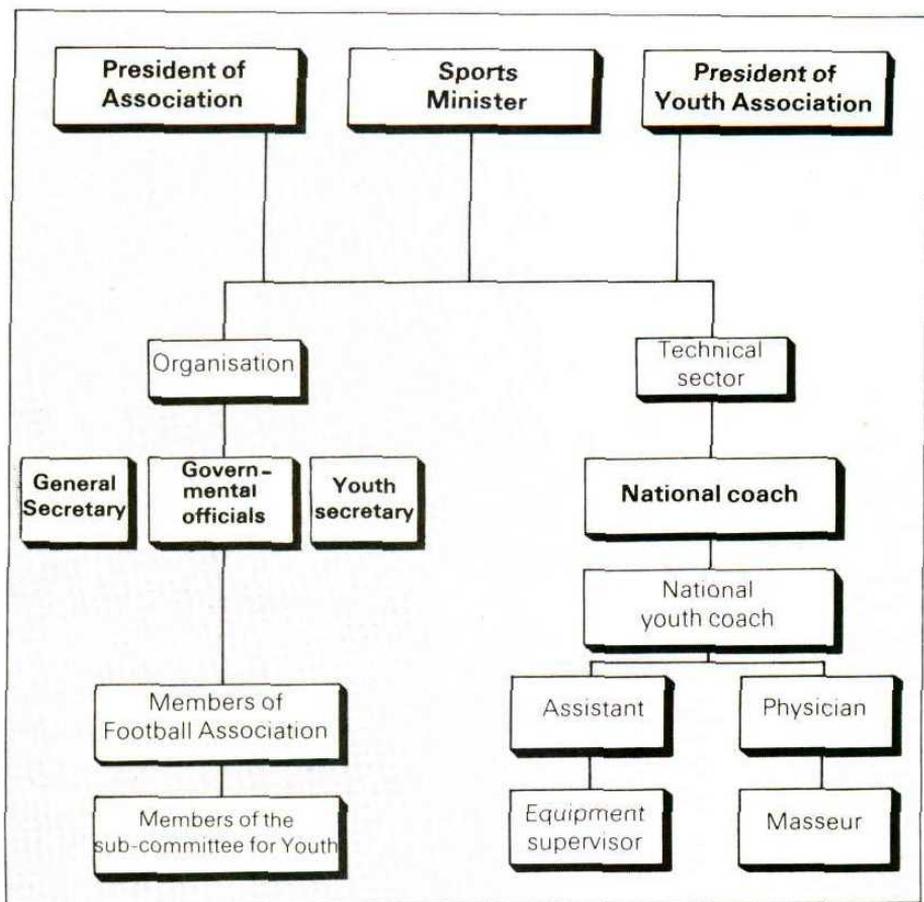
Der Fußballknirps



3rd Period of Training				
14	15	16	17	18
B Youth		A Youth		
<p>(3) Training of youth players (14–18 year-olds) Training at kick at goal with 14–18 year-olds Improving dribbling. 1 1 feints Outplaying the opponent and performing ensuing actions (passing, centring and shooting) Improving interchange of passes – from small manoeuvres up to team games Stabilizing and broadening technique</p>				
<p>Physical training with 14–18 year-olds Training uniformity for 14 to 18 year-olds Solving conflicts of interests socially and educationally Improving physical efforts</p>				
<p>Training defence conduct in individual, group and team sector (Field players and goalkeeper) Improving team tactics/application in the game Improving group tactical conduct 2, 2/3 3 Improving individual conduct 1 1</p>				



Gebt den Mädchen eine Chance



The organisational chart of the participating teams allows a further look at the connections between the structure of the association, team selection and preparation.

In the case of the established national associations there is a similarity to be seen between these organisational

charts and those for the World Cup squads, making due allowance for differences of structure within the associations.

At the top of the teams' administrative hierarchy we find three different models, in some respects quite far removed from each other:

1. The head of the delegation was:

- a) the sports minister of the participating country
- b) the president of the football association
- c) the president or vice-president of the association's sub-committee for youth football.

2. Directly under him were:

- a) Government officials
- b) General secretary
- c) secretary for youth employment.

3. Members of the delegation were:

- a) Members of the football association
- b) Members of the subcommittee for youth.

The technical side was for the most part clearly differentiated:

The national coach

The national youth coach

his assistant

plus team doctor, masseur and an equipment-manager.

The title of the chief coach varies according to country. Following Anglo-Saxon terminology Scotland had a team-manager, while the Netherlands for example were led by the national team coach.

However, the great majority of teams were in the charge of the national youth coach, who was also responsible for team selection and preparation. It should not pass unnoticed that many of the participating countries had the national team coach present as an observer, not directly playing a role in the youth team's work (USSR, Ivory Coast).

Further, some teams, e.g. Australia, had a special equipment-manager as an official member of their delegation, in addi-

tion to the usual assistants. In other teams this function was exercised by the masseur, if they had one.

The team doctor's position was regarded as being of great importance, partly due to the fact that the teams expected medical problems to arise under the Mexican conditions, not only because of altitude and climate, but also because of the food, water, and hotel accommodation.

In view of this expectation of medical difficulties, it was surprising that some teams took along doctors with little experience of either football or the Mexican environment.

However, a good example was set by Australia who took along the doctor who had accompanied the Olympic delegation in 1968.

The absence of a masseur in some teams was difficult to understand, when one considers the physical strain that such a tournament imposes on youthful players, especially under such geographical conditions.

Heads of Delegations at Meeting on 1.6.83

<i>Country</i>	<i>Name</i>	<i>Function</i>
Argentina	J Russo	Head
	C Pachame	Coach
	Dr R. Revoredo	Doctor
Australia	P McCann	Head
	T Grimson	Manager
	L Scheinflug	Coach
	Dr B. Corrigan	Medical officer
Austria	H Raggautz	Head
	H Palme	Secretary
Brazil	A Castilh	Head
	E Vasconcellos	Delegate
China PR	Xu Cai	Head
	Cheng J'aliang	Deputy head
	Zhang Jilong	Secretary
	Gao Fengwen	Coach
	Yin Huairong	Coach/Observer
Ivory Coast	L Dona Fologo	Minister for Youth & Sports
	M Aguerr	Head
	C Sogbo	Ambassador
	C Djabiga	Ministry attaché
Korea Rep.	OH Wank-Kon	Manager
	Park, Jae-Noo	Director of Korea FA
	Yoo, Ji-Hyung	Director of Korea FA
Mexico	A Alvarez Cuevas	Head
	M Velarde	Coach
	Dr M Mejia Baron	Administrative coordinator
	M Aceves Montenegro	Treasurer
	V. Milutinovic	
Netherlands	W. Jesse	Secretary
	F Kessel	Team doctor
Nigeria	D. Enajekpo	Head
	E Kentebe	Chairman/NFA
	Y Okeowo	Gen. Secr /NFA
	M Mamuda	Team manager
	C Udemezue	Coach
Scotland	D. Will	Head
	A. Roxburg	Team director
	Dr. M. Been	Team doctor
Uruguay	H. Juanico	Delegation president
	Raul Masciadri	Delegate
USA	G. Edwards	President USSF
	D. Greer	Chairman Youth Div USSF
	K. Lamm	Gen. Secr USSF

Missing from this list are the names of the members of the delegations from Poland, USSR and Czechoslovakia, who were unfortunately unable to attend the meeting for organisational reasons

Talent Scouting and Development





Talent Scouting and Development

Enquiries and investigations carried out in Mexico showed a clear trend towards greater motivation among the young players, although the reasons for this are very diverse.

There is no valid reason why young footballers should be denied what is taken for granted at the same age in other sports — skating, swimming, gymnastics and tennis, to name but a few — and that is competition at the very highest level.

The examples quoted above are all the more convincing since they are individual sports. Is it not rather absurd to deny young team sport players the dream of a World Championship? This argument makes even more sense where the demands of training and competitions are well balanced and when, as in the case of team sports, other ethical qualities are developed such as the discipline of playing a definite role within a team, team spirit, and also social behaviour.

All social behaviour must be considered in the context of the environment in which the player lives. In this respect particularly, the investigations in Mexico were very illuminating.

Opinions were divided in drawing conclusions about the relationship between *motivation and success*. Clearly such results are only of limited general validity and only apply specifically to the team being asked.

In the light of previous World Championships it was a surprise for all observers how the Latin American teams had shown an almost explosive improvement, even though a swing in favour of youth football had been noticed during the last few years, particularly in Europe.

Solid evidence for this is the increase in youth tournaments and championships.

Nor is the clear difference in levels which was apparent in Mexico to be explained simply by greater familiarity with, and better adjustment to, the geographical location and conditions. A tendency that was noticeable during the World Cup.

The reasons for this must be sought elsewhere. The following helps to explain the situation:

The popularity of football in Central and South America gives the sport, in the eyes of younger players, greater prestige than it enjoys elsewhere as a means of improving social status.

Compared to Europe there are not many sports in which young athletes can make a name for themselves. There are various reasons for this — equipment, exclusive policies of the clubs etc. Early success in football elevates the young player to a higher social class, this prestige being enjoyed not only by the player, but also — and this is a decisive point — by his entire family, so all profit from his talents.

The effort required is low in comparison to Europe, if one thinks of tennis and ice-skating (no long hours working with a coach). However, the financial rewards are also more moderate. In professional sport in Europe astronomical levels are being reached, whereas in South America relatively low incomes carry considerable social prestige with them. Expectations in terms of performance are also lower. Young players are not under so much pressure to perform well and to succeed.

Compared to their contemporaries in Europe, young people in South America do not lead lives so bound by tradition and environmentally determined factors.

For them there are clear priorities, which are guided by thoughts of the years ahead. This is certainly connected to life style and general mentality.

The European attitude is more governed by the idea of security, which manifests itself in two ways:





Korea Rep.

FC Citizens National Bank
FC Daewoo Royal
FC Hallelujah
FC Korea Oil Corp
FC Pohang Iron N Steel Co. Ltd



China PR

Anhui
August 1
Beijing 1
Beijing Army
Guangdong 2
Hebei
Hubei 1
Jiling
Kunming Army Teams
Liaoning 4
Nanjing Army
Shandong
Shanghai 1
Sheyang Army
Sichuan 1
Tienjing 4
Tienjing No 2



Australia

Adelaide City
Brisbane City 1
Brisbane Lions 2
Canberra Arrows 2
Footscray
Heidelberg United
Leichhardt
Marconi 4
Newcastle K.B. United 2
Preston
South Melbourne
Sydney Olympic 2
Sydney City
St. George
West Adelaide
Wollongong City 1

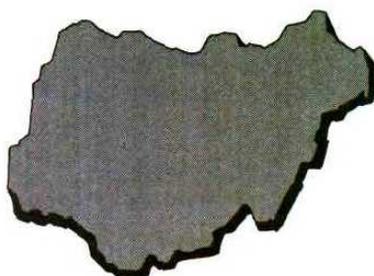
1. The time available for football is short in comparison to South American conditions, since even young players carry a double load if they want to succeed in football and in their careers.

In Europe there are only these alternatives: Either concentrate on football, become very successful and thus establish oneself for life, or concentrate on a career and remain an average footballer.



Ivory Coast

Africa Sports Abidjan	5
Asec Club	2
FC Rail	1
Gagnoa	1
R.C. Daloa	2
San Pedro	1
Stade Club	3
Stella Club	1



Nigeria

Bendel Insurance	
Eyimba Owerri	
IIC Ibadan	
Mighty Jets Jos	1
New Nigeria Bank	4
Raka Rovers	
Rangers Enugu	2
Sharks Port Harcourt	2
Stationary Stores, Lagos	
Water Corporation, Ibadan	1

2. These demands are not so definite for *South Americans*. They take life relatively easily and are less security-conscious. As previously noted they are less concerned with the future, more flexible in their attitudes. Career — expectations are not so high.

These brief remarks, however, lead to a definite conclusion:

The South American has more time available for practice during his formative years, and this extra time manifests itself clearly in one of the most important areas of football-technique.

The clearest difference in attitude was expressed in this one area during the World Youth Championships.



Mexico

Club de Fútbol America, S.A.	6
Club Deportivo Atlante, A.C.	1
Club Atlas de Guadalajara, A.C.	
Club Atletico Potosino, S.C.P.A.	1
Club Atletico Morelia, A.C.	
Club Deportivo Neza, A.C.	
Club Deportivo Oaxtepec, A.C.	1
Club Deportivo Puebla, F.C.	1
Club Tampico Madero, A.C.	
Club u. de Guadalajara, A.C.	1
Club Dep. Soc. y Cult. Cruz Azul	
Club Deportivo Guadalajara, A.C.	
Club Social y Deportivo León, A.C.	
Club de Fútbol Monterrey, A.C.	1
Club Deportivo Necaxa, A.C.	3
Club Deportivo Toluca, A.C.	
Club Deportivo Tigres, A.C.	
Club U.A. de Guadalajara, A.C.	
Club Universidad Nacional, A.C.	
Club Unión de Curtidores, A.C.	

USA

Chicago Sting	
Fort Lauderdale Strikers	
Golden Bay Earthquakes	1
Manic Montreal	
New York Cosmos	
San Diego Sockers	
Seattle Sounders	
Tampa Bay Rowdies	
Team America	
Toronto Blizzard	
Tulsa Roughnecks	
Vancouver Whitecaps	

The difference is not just a question of degree, more one of principle, and further reference will be made to this point.

A new trend has been discerned in *talent-scouting and development*, both at club and national level.



Uruguay

Bella Vista	
Cerro	1
Danubio	3
Defensor	2
Huracan Buceo	1
Liverpool	
Miramar Misiones	1
Nacional	3
Penarol	2
Progreso	
Rampla Juniors	
River Plate	2
Sud America	2
Wanderers	



Argentina

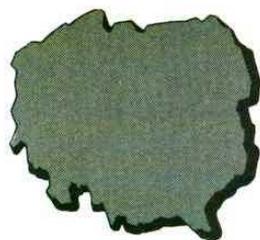
Argentinos Juniors	
Boca Juniors	1
Estudiantes de la Plata	1
FC Oeste	1
Huracan	1
Independiente	2
Instituto Córdoba	1
Newell's Old Boys	4
Nueva Chicago	
Platense	2
Racing Club (Avellaneda)	
Racing Córdoba	
River Plate	
Rosario Central	
San Lorenzo	
Talleres Córdoba	1
Temperley	
Unión Santa Fe	
Velez Sarsfield	1



Brazil

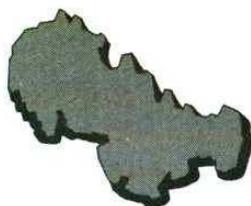
<i>Rio de Janeiro:</i>	
America	1
Americano	
Bangu	
Bonsucesso	
Botafogo	
Campo Grande	1
Flamengo	4
Fluminense	1
Madureira	
Portuguesa	1
Vasco	1
Volta Redonda	
<i>São Paulo:</i>	
America	
Botafogo	
Corinthians	
Ferroviana	
Guarani	
Juventus	
Palmeiras	
Ponte Preta	3
Santo Andre	
Santos	
São Bento	
São Paulo	2

If one studies the club affiliations of players in previous World Youth Championships it will be seen that in comparison to last year almost 90% of the participating players are already attached to first division clubs in their own countries (diagrams 17–22).



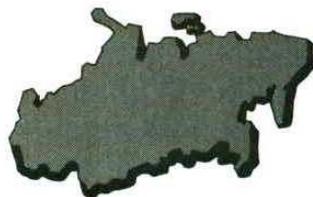
Poland

Baltyk	3
Cracovia	
Gornik	2
Gwardia	
Kattowitz	
Lech	1
Legia	
LKS Lodz	3
Mielec	2
Pogon	1
Ruch	1
Slask	
Sosnowitz	
Szombierki	
Widzew	3
Wisla	1



Czechoslovakia

AC Nitra	
Bohemians	
Brünn	
Dukla	2
Inter Pressburg	
Lok. Kosice	1
Olomouc	
Ostrau	
Presov	
RS Cheb	1
Slavia	1
Slovan	1
Sparta Prag	1
Trnava	
Vitkovice	1
Zilina	



USSR

Ararat Erewan	
Armeekl. Moskau	
Charkow	
Dnjepr	2
Donezk	
Dynamo Kiew	3
Dynamo Minsk	1
Dynamo Moskau	2
Dynamo Tiflis	1
Jalgiris Wilna	
Kischinew	
Kutaissi	
Leningrad	
Neftschi Baku	
Odessa	
Spartak Moskau	1
Taschkent	
Torpedo Moskau	

The following diagram provides a more detailed overview.

This clearly points out that club scouts today are on the lookout for 14 to 16 year old players, primarily in representative teams, and attempt to get them to join their clubs.

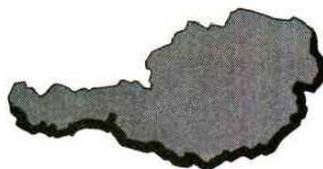
National associations encourage this trend by organising youth tournaments at the various levels.

Of the many significant youth tournaments, a number have already become traditional and occupy a regular place in youth teams' calendars.



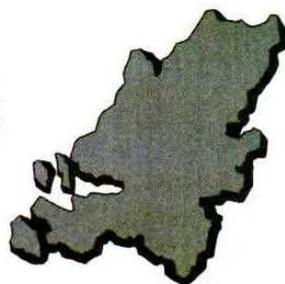
Scotland

Aberdeen	3
Celtic	3
Dundee	2
Dundee UTD	
Hearts	3
Hibernian	
Motherwell	1
Rangers	1
St. Johnstn	
St. Mirren	1



Austria

Admira/W.	1
Austria	4
Eisenstadt	
Grazer AK	
Innsbruck	2
Klagenfurt	3
Linzer ASK	
Neusiedl	
Rapid	
Salzburg	1
Simmering	
Sturm	2
Un. Wels	
Vienna	
Voest	1
Wr. Sportklub	1



Netherlands

Ajax Amsterdam	8
AZ 67 Alkmaar	
Dordrecht 79	
Excelsior R'dam	1
Feyenoord R'dam	2
Fortuna	
FC den Bosch	
FC Haarlem	
FC Groningen	
FC Utrecht	
FC Volendam	
Go Ahead Eagles	
Helmond Sport	
Pec Zwolle	
PSV Eindhoven	3
Roda JC Kerkrade	
Sparta R'dam	
Willem II Tilburg	

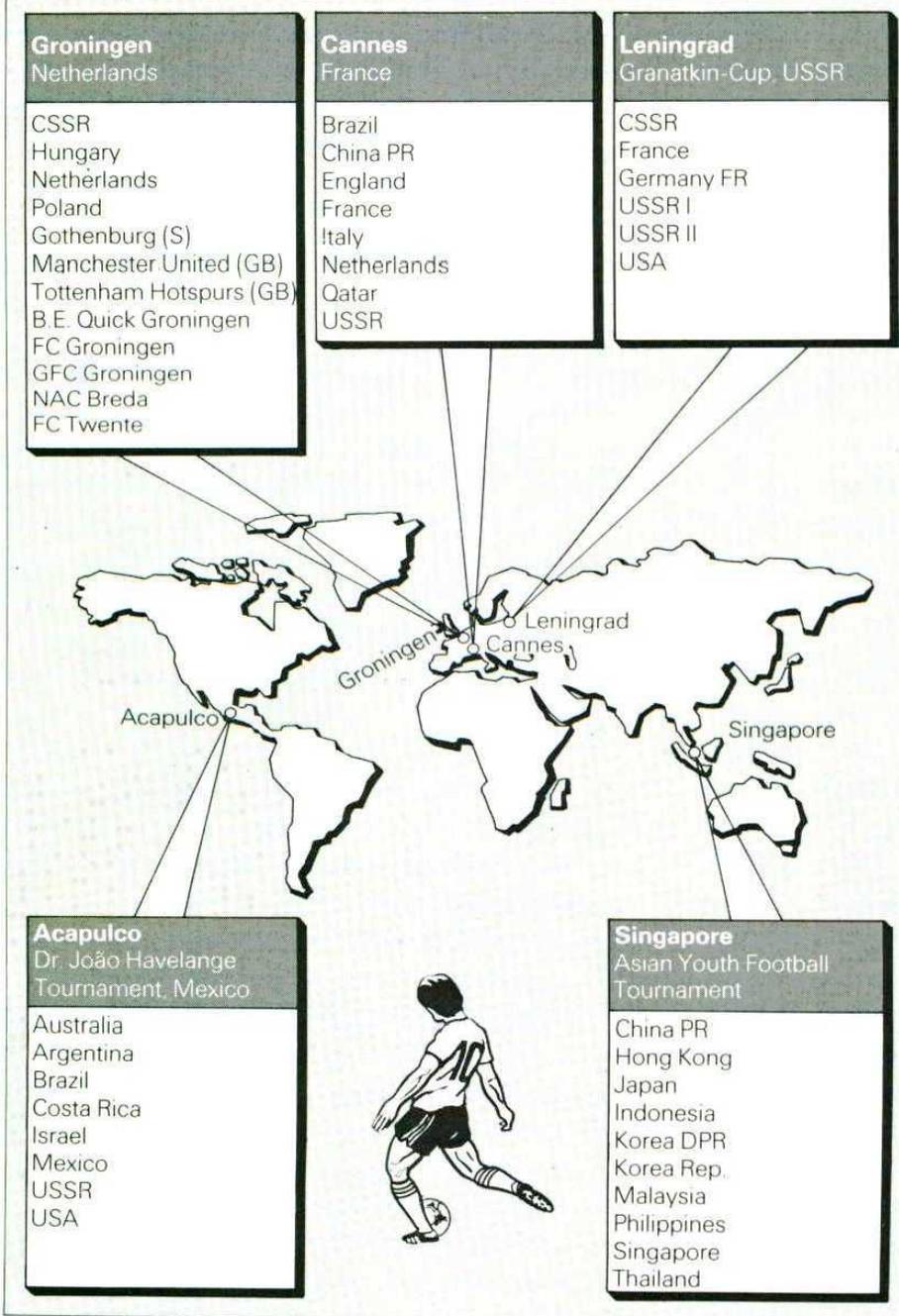
In Europe the most important are the tournaments in France (Cannes) and the USSR (Leningrad: Granatkin Cup).

In Asia the youth tournament in Singapore enjoys similar status.

In the CONCACAF region the Dr João

Havelange Tournament is on the way towards becoming a fixed event (diagram 23).

Although the tournaments mentioned above are invitational and friendly, UEFA has already organised representational youth championships (diagram 24).



The mental conflict with which the young player may be faced has been mentioned elsewhere; he may find himself under pressure from two or even three different sides.

Loyalty and success in his private life (school and career being included here), as well as in his relationship with the club that will be supporting him in many ways, though always with his development as a footballer as its main aim. The third loyalty will possibly be demanded by his involvement with the regional or national association, towards which he will have patriotic or similar feelings, partly in return for their interest in having discovered him.

Against such a background, it is more understandable that many talented young players do not fulfill their potential, or, having shown precocious maturity, do not develop further.

Merely being a member of a big club is not the only factor in a player's continuing development, but above all his involvement as a player in competitive games.

Players who do not get regular games with the club's team should be offered

some satisfactory alternative so that they do get practice.

The progress of a player within the association is shown graphically:

Examples of this smooth development are relatively common.

Enquiries carried out in Mexico during the World Youth Championship to probe more deeply into this subject brought forth the following typical responses: The highest degree of motivation for young players is their desire to progress to a higher level of national team.

Following this comes the desire to impress their own club by playing well.

Third and fourth places are taken by the closely related aims of being able to join a professional team and thus climb the material and social ladder.

The following reference material,

Possibilities and Problems in Football Talent Scouting

are quoted to provide a general introduction to this subject.

Football player Bessonow is an individual example of a player's development from youth to international top class based on a very good Association structure.



World Cup

Olympic Football Tournament

WYC (under 21)

National Junior team (under 16)

Club

Regional selection

Club on lower level



Moscow 1980

Tunisia 1977

1976 Dynamo Kiev First team

Dynamo Kiev Football school

Vladimir Bessonow (5.3.1958)

Possibilities and Problems in Football Talent Scouting

It needs to be stated here that talent scouting is only the first step in talent development, and that once discovered the talent needs careful looking after. Unless the close link between these two activities is realised, the real goal of talent scouting will not be reached.

In the professional game, the very place where great attention is currently being paid to finding talented players for the first team, the talent scout's and manager's efforts often stumble at the last hurdle. The coach, whose primary function should really be to develop talent to the level of being able to make the transition into the first team, often cannot find enough time to devote proper attention to reserve players. Frequently there is such pressure on him to succeed that he will not, or only belatedly, take the risk of using his younger players. This is particularly a problem for coaches whose teams are near the bottom, or the top, of the table. The situation is basically the same at the upper amateur level. Lower down the ranks of amateurs, teams are often forced to include their younger players quite early, simply because of a lack of other players.

The Concept "Football-Talent"

The Sporting and Scientific Lexicon (Professor Roethig) gives this definition:

"A talent is an athlete whose ability in a certain direction, though not yet fully developed, is above the normal level."

There are two important phrases in this definition that are of far-reaching importance, which I should like to examine in more detail.

1. Ability above the *normal level* can be interpreted in several ways. A player talented in the view of his club might not appear so to a regional selector. Or a player considered talented by the junior coach might fall short in the eyes of the first team coach. Ability that is above average compared to the level of the youth team might lie well below the average for the club as a whole, or for the first team.

2. Pointing out the fact that the talent is "*not yet fully developed*" is an indicator that: The talented player will turn out to have weaknesses. Therefore patience, encouragement and care will be needed from the coach and his assistants. Even players like Breitner, Hoeness, Schwarzenbeck, Netzer and

many many more had to play a reserve role for a while and were not complete players right from the start. The same basic situation faces all those nameless young players still waiting in amateur and professional clubs.

The final transition into the first team may come for one of several reasons — lack of other players, the courage of some coaches or via natural maturation.

A talented player must show all the attributes that are needed to succeed in his chosen field at a highly competitive level. In football, the factors involved are multitudinous, perhaps more so than in any other sport. For this reason scientific test alone cannot detect all the facets of performance that go together to make a footballer talented.

How players perform competitively depends on these individual factors:

1. Ability

For a talented player, excellent technical skills are an absolute prerequisite, but in themselves by no means sufficient. Today, in addition to technique, a talented player must possess outstanding motor qualities such as strength, speed, endurance and agility, and be able to combine these. The player should also be capable of operating within a pre-planned tactical framework.

Many talent scouts are so impressed by technical skills that they tend to pay too little attention to the other factors. In this respect it should also be borne in mind that the level of technical skills required varies according to the team position.

2. Coachability

Coachability is largely genetic. It could be regarded as the quotient obtained by dividing improvement in competitive performance by the amount of training undergone. The greater the improvement in competitive performance for a given amount of training, the higher the player's talent should be rated.

Many talent scouts perhaps overlook potentially good players for this very reason, since they pay too little attention to the amount of coaching the player has already had. Youths or amateur players who have had little coaching, but are genetically highly coachable, can often improve their performance considerably if given regular intensive training.

Close cooperation between the selectors of representative teams and club trainers could avoid a lot of mistakes, since the latter is in a better position to estimate how much coaching a player has had, and hence his coachability.

3. Drive

Drive is a very significant factor. At the youth and amateur levels many really talented players fall by the wayside, since they have other interests and *are not prepared to put out the kind of training effort needed to succeed at highly competitive levels.*

The following quotations underline this fact:

Tschesnokow:

"Talent in sport — is primarily only a disposition, only potential. To develop talent the will to work and interest are absolute essentials."

Billy Wright:

"Success in football is 20% talent and 80% hard work."

Sepp Herberger:

"One of our top internationals was not better than 100 others from the talent side — but in drive and hard work he was the best."

Tschesnokow again:

"The question has to be asked, why, out of the large number of extremely gifted children and youths, do so few develop into valuable adult sportsmen? Why is it that very talented young athletes often disappear from the adult sporting scene?"

A talented player is ultimately only of value to a team or to a club if he has a strong desire to perform well. This desire is made up of a high degree of ambition plus mental toughness. This is the ability to overcome obstacles to reach the desired goal.

In addition, a talented player needs considerable mental stability, to be able to overcome set-backs and not be put off by difficulties.

Other characteristics such as self-confidence and a well-balanced personality round off the picture of the complete player.

In addition to outstanding motor characteristics and a strong competitive spirit (which is often the result of a complex or of conflict compensation),



sport psychology would also require other characteristics:

In spite of self-confidence the player should also have some belief in authority and allow himself to be guided by his coach. He should also be capable mentally and physically, of going through extremely demanding training sessions. Finally, he should be left somewhat uncertain as to the extent of his own talent for as long as possible. If space were available, more could be added here about the management of talented players.

Talent Scouting Institutions and Their Goals

Football talent scouting is carried out by:

- schools
- football clubs
- regional and national associations

often all three cooperating in discovering and developing talent.

However, the goals of these institutions are quite separate in some respects and this can cause occasional difficulties.

Talent Scouting by Schools

More than in the past schools nowadays consider talent-scouting one of their functions. However, for them it is not just a question of talent scouting.

In school sports and physical education programmes, competitive sport offers another possi-

bility for physical self-expression, alongside "games" and behaviour. For the school, competitive sport is worthwhile since it is of proven pedagogical value. Despite their facilities, however, schools generally do not want to operate merely as a stepping-stone to higher sporting levels.

Until this point has been clarified between the school authorities, clubs and associations, misunderstanding on the subject of talent scouting will continue to exist.

Talent Scouting by Clubs

The primary concern of most small football clubs is to enroll as many active members as possible. As a rule, youth leaders believe that breadth at lower levels is the foundation for a high peak.

In all competitively-oriented junior sections, efforts are made, in various ways, to establish strong A-, B-, C-, D- and E-junior squads. The main aim of each coach is for his team to do well in its own age category.

A number of clubs make efforts to get their players into regional or national representative teams. However, the overriding aim of all the junior divisions must be to provide an above-average supply of players for the club's top team.

In the age of professionalism, not a few amateur clubs balance their books by transferring talented young players to professional clubs, the financial conditions being laid down by the appropriate regional association.

Talent Scouting by the Associations

The football associations observe players in all age groups, and like to make appropriate selections as early as possible. Increasingly, their efforts are directed towards guiding young talented players toward the top league clubs. This should guarantee that these above-average players are extended as far as possible by playing in highly competitive matches each weekend.

Representative games and courses are seen not only as a reward for good performances on the one hand, but as a motivation towards more intensive training and competitive efforts on the other.

The main aim of the association's talent scouting is the formation of national teams at schoolboy, youth and amateur levels. How far the association's efforts at talent scouting and development

are based on a recognition of the clubs' requirements varies from case to case.

Possibilities, Ways and Means and Problems in Talent Scouting

In many sporting and scientific areas it seems that "tests" finally decide what's good or not.

With regard to talent scouting in football, I should like to sound a warning about the misconception that football talent can be discovered by sporting-scientific tests alone. This may well be the case in sports in which performance depends on only a few motor characteristics (e.g. long jump or sprinting). In football, where performance — as mentioned above — depends on a multitude of often quite dissimilar factors, this is, at least for the present, scarcely possible.

Individual tests for speed or endurance can possibly help in making decisions. Sport-medical examinations are unavoidable — at least among the professionals. Ultimately, however, no battery of tests — however comprehensive — can replace the sharp eye of the football expert. Only he can judge whether a player is likely to be able to use his skills in a game and to vary how he uses them; whether he'll be able to harness his physical ability to the team's tactical plan, and finally whether his overall personality will make him an above-average player. Personality evaluation would also include observation of the player's ability to fit into social groups and to carry out specific duties, in addition to his motives and efforts.

None of the three institutions involved in talent scouting can afford to do without a well-trained and experienced expert. The methods, possibilities and means involved in systematic talent scouting are nonetheless quite different in schools, clubs and associations.

1. Possibilities and Problems of Talent Scouting in Schools

The "Austrian schools league" and the competition "Youth trains for the Olympics" have already been mentioned as outstanding examples of talent scouting in schools.

2. Possibilities and Problems of Talent Scouting in Clubs

Every year the associations organise representative games and observation courses for all age categories, starting at local league levels. This extends an observation network down to the very youngest categories, and the annual repetition

means repeated observation at each stage up. From local leagues, via regional leagues and so on up to national level, a pyramid of talent observation is built up.

Cooperation between the coaches of the representative teams and the club trainers forms the backbone of the talent scouting system. Observation of matches and individual players starts out as "free observation". Formal observation follows, which today includes note-taking, using dictaphones and, most recently, videorecorders, for careful analysis.

Representative team selectors are faced with many difficulties. Having to study 11 or even 22 players in the course of one match, many of them for the first time, means a high proportion of mistakes. The need for cooperation with club coaches is quite clear.

It often happens that players in representative teams are assigned to positions to which they are not accustomed. Among the most affected by this are midfield players, since they are often put forward by the clubs in greater numbers and often end up playing as defenders, centre-backs or even forwards.

Players who have come through several observation sessions successfully, and have been invited to trials at the next higher level often run into time problems. Conflicts arise with their schools or their employers. These can only be avoided by regular communication with the family, the school and the employer. Players who have been put forward by their clubs as promising material for representative teams frequently run into problems, both educational and psychological, when they are objectively informed that their talents are sufficient for the club but not for the association.

The definition of talent previously considered contains the phrase "above the normal level" but, as was remarked then, what fits this description in terms of the club does not necessarily do so for the association. For this reason players, especially young ones, often return to their clubs from trial games with a feeling of frustration. The coach of the representative teams has a pedagogical duty towards all the players he observes. He should not just concern himself with the better ones, but must also help those rejected by giving them advice and tips for their future sporting development.

3. Possibilities and Problems of Talent Scouting in Clubs

In clubs there is a clear distinction between talent scouting at junior levels and talent scouting with the strengthening of the first team in mind.

In the development of talented players it is important that highly talented players be treated in exactly the same way as those with less talent but more determination and competitive spirit.

Starting at the junior level players should be guided towards the positions for which their abilities and inclinations suit them. Those involved in talent selection should realise that the qualities demanded of a centre-back, for example, are different from those of a right-winger. Quite frequently players who are late developers are completely neglected. However, it is often these very players that later reach the highest levels. If they are kept as permanent reserves or second-team players, they can easily lose interest in playing and training and turn their backs on the game.

From the point of view of talent development, the practice should be encouraged of promoting highly promising youngsters up to the next age group. Only at this level will they have to learn to fight, week-in week-out — talent alone won't be sufficient; this is an absolute requirement if the talent is to be developed. Often short-sighted goals (lower age group championship) are put before talent scouting and development.

The same problem can arise when a talented player wants to leave his home club and begin to make his way up by joining a club in a higher league. This situation often results in a conflict of interests between the player's quite justifiable desire to move up, and the lower league club's equally understandable efforts to maintain as strong a team as possible.

Thorough talent scouting demands observation of more than one game. The player should be watched several times, with and without prior notice. Observation by several experts is also recommended.

The transfer into the amateur and professional domains requires further tests and above all medical examinations. Whether a player is ultimately suitable for a given team also depends a lot on whether his style matches the coach's concept and hence the team's pattern. For example a forward whose strength lies mainly in scoring "sweeping up" type goals would not fit into a defensively oriented team that relied on quick counter-attacks.

Not least, a player's temperament and behaviour

must be such as to allow him to be integrated into the team.

Successful talent scouting and the subsequent process of team building, plus looking after and developing those talents are among the most difficult, but also most rewarding, tasks in the realm of competitive football. On account of the high expectations in the top amateur leagues, and above all the almost ridiculous transfer fees among professional clubs, talent scouting and development becomes ever more important. Many clubs and trainers manage to do the job well.

BRANDY

PRESIDENTE

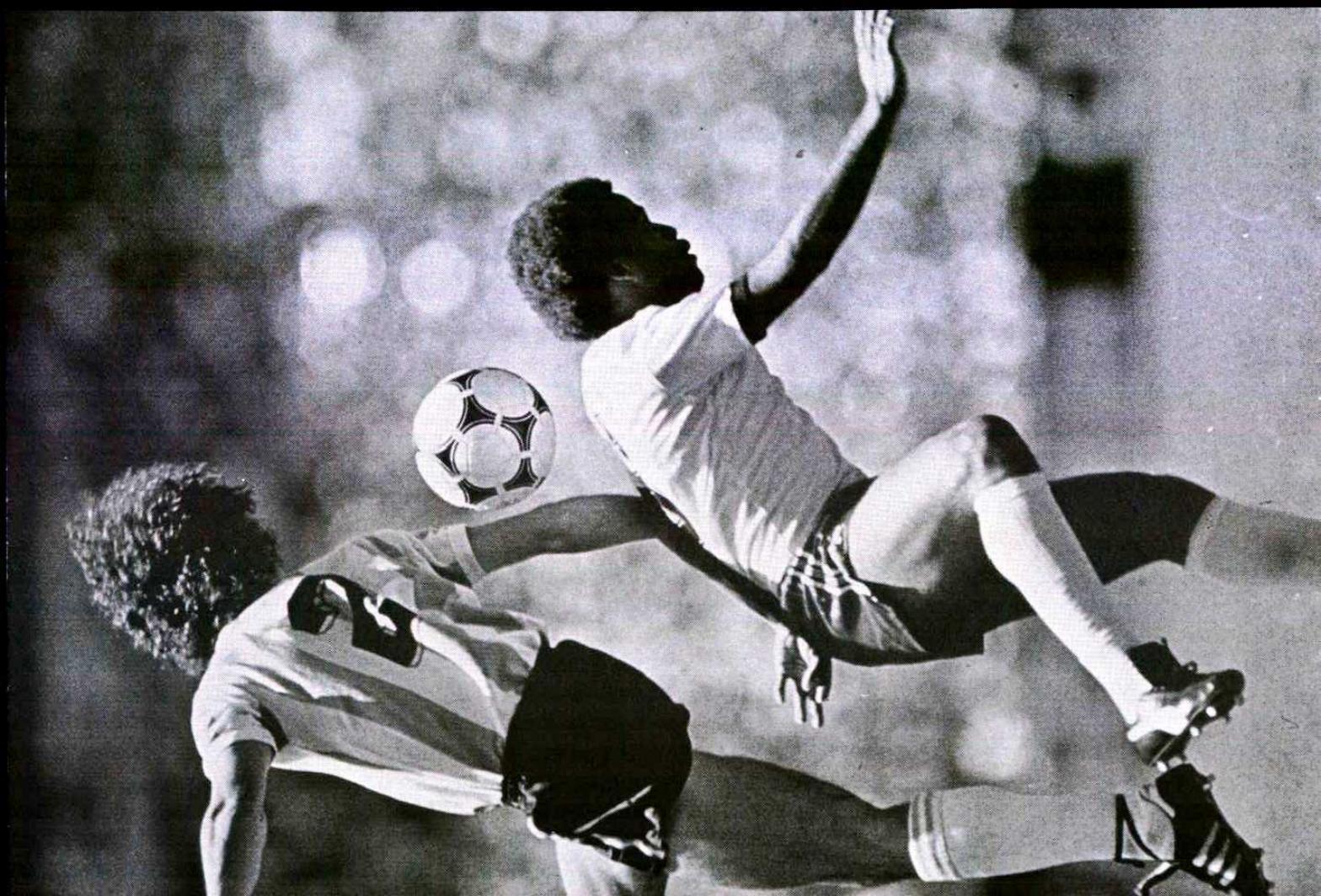
para quien
Las rien



Team Preparation



General Preparations
Special Preparations



Team Preparation for the World Youth Championships

As mentioned in the previous chapter, organisation and infrastructure alone guarantee no improvement in the standard of football.

Regular championship games and belonging to a first division club or to the national team do not in themselves guarantee improvements in skills. These only provide a suitable framework.

Decisive in developing skills is the application of modern and continually adjustable training techniques. It was particularly in this area that conversations with the coaches of the national youth teams made it apparent that a review and a re-orientation were needed.

While the previously mentioned youth tournaments allow only a limited and intra-confederation performance comparison to be made, world tournaments like the World Youth Championship in Mexico made a global analysis realistic.

Direct comparisons, particularly between Europe and Latin America, practically demanded a discussion of the different training techniques.

All the more so, since the Study Group had the opportunity to observe the teams both in training and in matches. It has already been mentioned that the comparison turned out very much in favour of the Latin Americans, and Korea Rep.

To uninvolved observers it may have appeared that tactical deficiencies in the European teams were responsible for their lack of success. This over-simplification must, however, be contradicted, since the tactical element is only a product of its two components, technique and physical condition.

Careful observation brought to light two main differences.

The Latin Americans differed from the other participants both in their physical and mental development and also in their football-specific attributes.

On the field they appeared more self-possessed than their European counterparts and gave the impression of greater individuality. Evidence for this was the way they were able to force opponents to play the game their way, their better adjustment to different situations and their quickness to exploit these.

These qualities are to some extent a question of development, but they can also be consciously promoted by various conditioning training techniques. This fact was referred to in the previous chapter in contrasting school football with football schooling.

Visitors at training sessions noted particularly the importance attached by the Latin Americans to basic speed as part of their conditioning.

In conversation with coaches the opinion was often expressed that European training methods possibly stress the stamina element too early for young footballers.

While many practical training programmes were mentioned for developing stamina, improvements in speed were not sought with similar intensity or methods.

In gymnastic preparation there were also noticeable differences that could have affected speed.

The Latin Americans paid a lot of attention to stretching and relaxing exercises, which were practised intensively over a long period.

In contrast to this, European youth training often placed the emphasis on strengthening exercises.

The differences can be summarised as follows:

- speed before stamina
- stretching and relaxing exercises rather than strength training

In addition to constitutional and physical attributes such as mental-physical development, to which reference has already been made, the non-European teams also had the advantage in purely footballing respects, thanks to their better technique.

It would be unfair to say that all the other teams played at a lower technical level — they all had skillful players in their ranks.

The difference can be clarified with these two observations:

- a) The first group could exercise its skills perfectly in confined spaces even in close proximity to opponents.
- b) The other teams needed far more room for their actions.

This made their moves more obvious, while the Latin Americans with their more suitable style were able to combine their technical superiority with surprise effects.

Possibly, the previously mentioned stretching and relaxing exercises had a beneficial effect on those young muscles.

Not only the gymnastic aspect but also the speed training in combination with technical skills deserves a second glance.

After all, it wasn't only in Mexico in 1983 that the Latin American combination of speed and skill was noticed.

The speed training, stretching and relaxing gymnastic exercises, plus individual ball control led to differences in the playing tactics seen at the Youth Championships, since in comparison the Europeans based their game more on stamina, strength and solid basic skills.

It is therefore to be recommended that in youth training programmes, more attention be paid to practising actual game situations rather than to formal basic skills which are often practised out of game context.

Organisation and direction should not be top priority, rather the encouragement of the player to develop his individuality and his specific skills.

During the World Youth Championship in Mexico this individuality expressed itself in the willingness of the South Americans to dribble, in which they were pretty much encouraged by their coaches.

The quality and the economy of the Latin American and Korean styles paid off in terms of effectiveness under the extreme conditions in Mexico.

By contrast the long-passing game (involving more running), often practised by the teams with poorer technique, naturally led to premature fatigue.

The more compact South American game, also noticed during the 1982 World Cup, came out on top, combined as it was with their physical and (speed/gymnastic) technical abilities.

Summary

1. Coaches expressed the opinion that technical and physical aspects of youth training programmes should be re-considered.
2. Baby, mini or small field football could perhaps offer better possibilities for young footballers to develop their playing skills. Please refer to the appropriate special section.

Special Team Preparation

Because of the extreme altitude in Mexico all teams underwent more intensive preparation than previous World Youth Championships demanded.

Several aspects of the preparatory programme should be distinguished.

1. Tactical-technical and conditioning training.

2. Preparation at home attempting to simulate Mexican conditions.

3. Four matches played under conditions similar to those expected in Mexico.

Special preparation depends on the Association's structure as shown in diagram below.

Countries	Short-term <i>Acclimatisation</i>	Medium-term <i>Special programmes</i>	Club <i>Long</i>
Netherlands	*	*** <i>Zeist</i>	***
Scotland	*	** <i>Colorado</i>	***
Austria	*	*** <i>Training camp</i>	**
Australia	*	*** <i>Training camp</i>	**
USA	*	** <i>Colorado</i>	*
Nigeria	***	*** <i>Venezuela/Columbia</i>	*
Ivory Coast	***	*** <i>Training camp</i>	*

The number of asterisks indicates intensity of preparation.

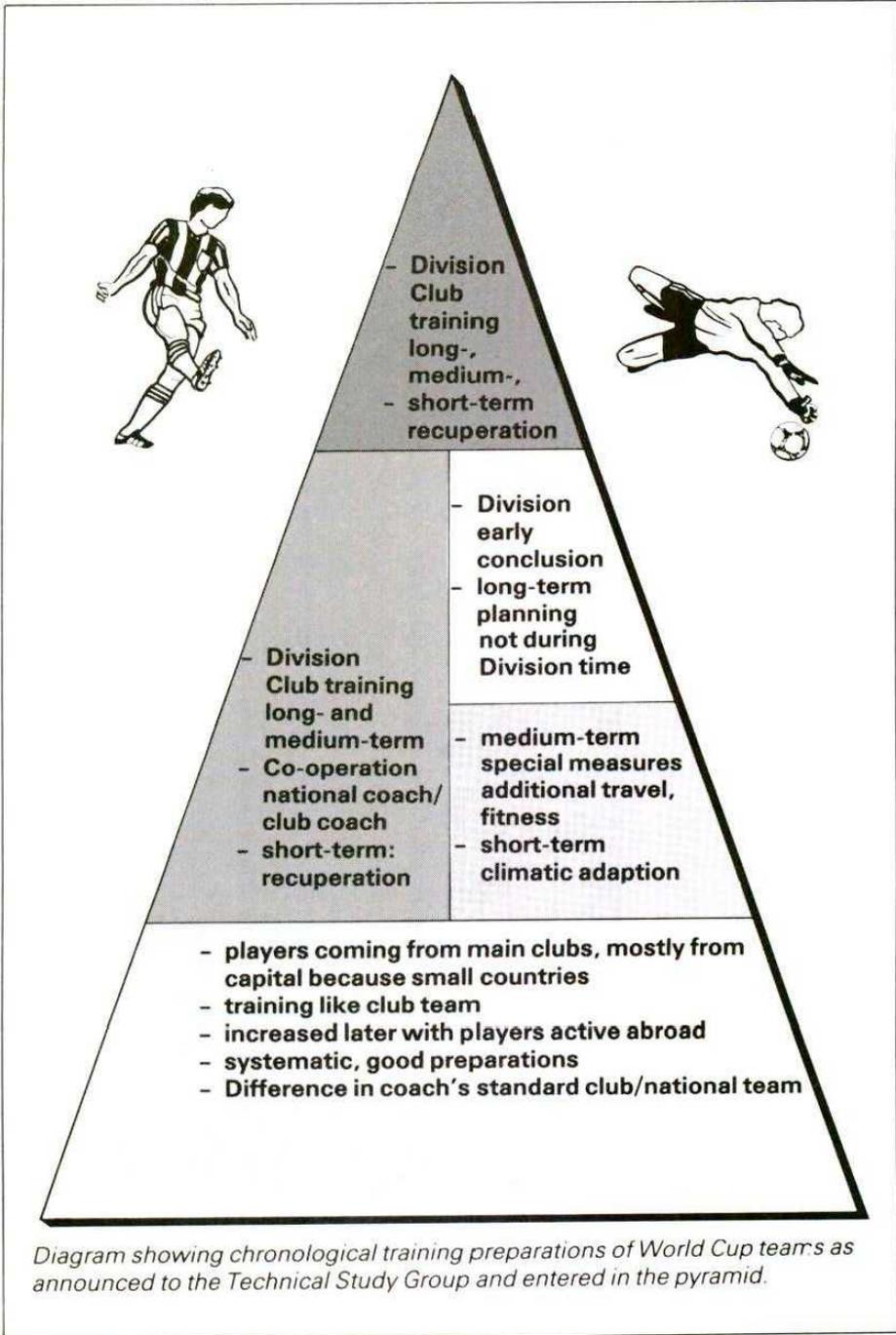
To point 1: Much has already been said about the direct relationship between the structure of the association and the clubs and their effect on team performance.

There seems to be a repeat here of the example shown in the 1982 World Cup in Spain, as the World Cup pyramid illustrates (diagram 9).

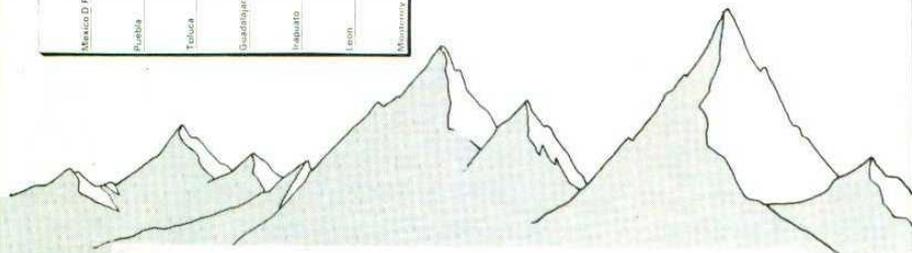
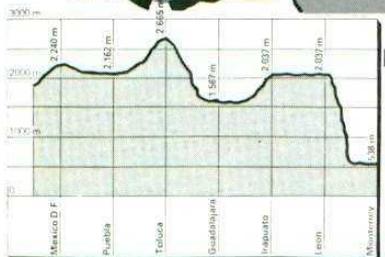
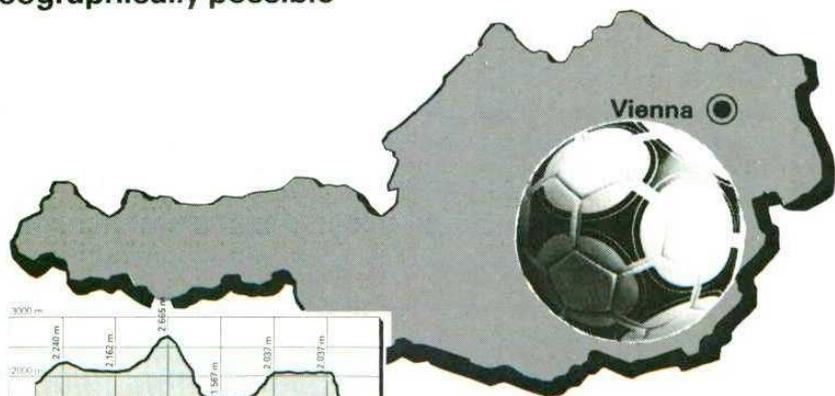
In those countries with strong club football, preparation is largely within the clubs, since players are by no means always available for the national requirements.

The opportunities for more intensive national training come predominantly at the end of the season or during the break between the autumn and spring rounds.

Term	Medium-term	Short-term	Countries
<i>Club</i>	<i>Special programmes</i>	<i>Acclimatisation</i>	
****	**	*	Brazil
****	**	*	Argentina
****	**	*	Uruguay
****	*** <i>Training camp</i>	○	Mexico
****	*** <i>Training camp</i>	*	USSR
****	*** <i>Training camp</i>	*	Poland
****	*** <i>Training camp</i>	*	Czechoslovakia
****	*** <i>Training camp</i>	****	China PR
**	*** <i>Training camp</i>	****	Korea Rep.



Austria's preparations emphasized adjustment to altitude and were organised at home — as this was geographically possible



The actual framework within which the qualifying games are played is also important.

In Europe, for example, this takes the form of a tournament held one year before the World Youth Championship, at which time the first phase of preparation is over. During the new season only infrequent training sessions can be *organised so as not to interfere with the clubs' programmes*.

Participating in tournaments such as the "Dr. João Havelange" Tournament in Mexico offered some teams e.g. USSR, a welcome opportunity to prepare the team during the winter break (diagram 29).

The Netherlands offer another example of intensive preparation, though once again it is specific to their conditions:

Regularly each weekend, players were called to the Sport School in Zeist, where training and practice games alternated weekly. This fitted in with the interests of both the association and the clubs. However, this example is of limited applicability, *only the short distances within the Netherlands making it possible* (diagram 30).

Austria chose a more concentrated form of preparation and combined tactical-technical training with conditioning and acclimatisation for Mexico by setting up a *high-altitude training camp* (diagram 28).

As was the case for the World Cup 1982 (shown in pyramid), *it was also the overseas teams that had the most intensive*

preparation for the Youth World Championship, attempting to make up for possible deficiencies caused by their less intensive club training.

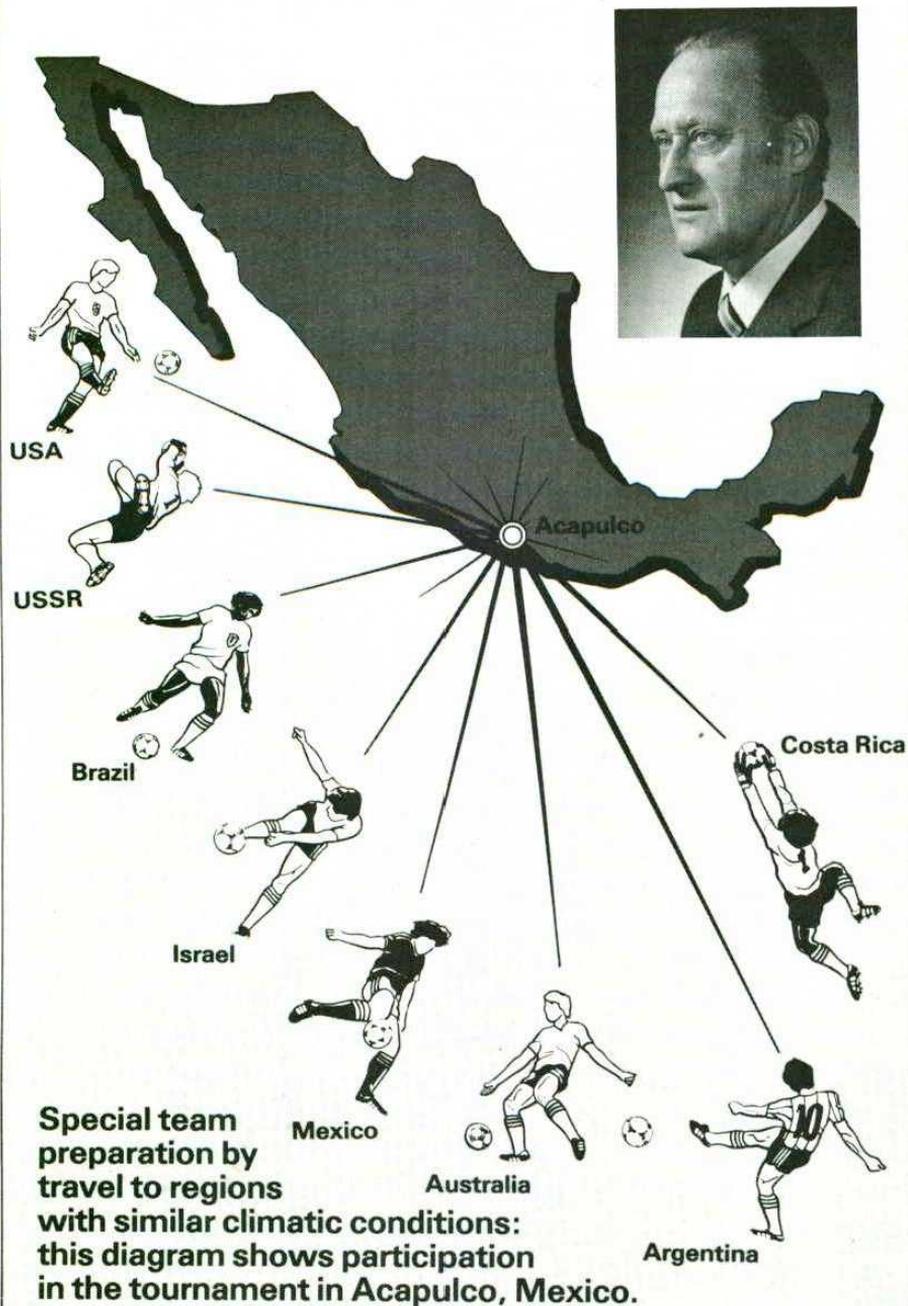
For these teams the preparatory phase extended over a long period. Yet to be considered are the teams from the CONCACAF and CAF regions where the qualification procedure has to allow for the *large number of participants and the much greater distances involved*.

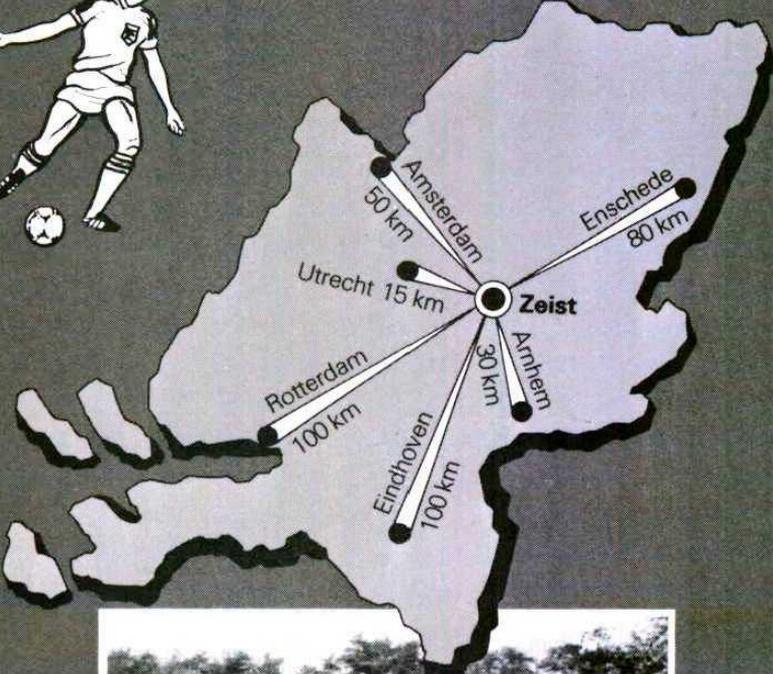
Once again there was a repeat of the events of the 1982 World Cup, exactly these teams arriving in Mexico very well prepared for their opening games. This applies particularly to Nigeria, whose intensive preparation certainly paid off during their first game against the USSR and thus recalled the exploit of Kuwait against the Czechoslovakians in the 1982 World Cup (diagram 31).

In tactical-technical and conditioning preparation there were no secrets, *particularly since every youth team was moulded in the style of its national team, apart from the special emphasis and other differences which were dealt with at length in the previous chapter*.

Every coach will periodically test his players so that he can obtain statistics *on their physical condition*.

However, such is the nature of football, that the results of these tests, which measure the playing ability of the individual players and of the team as a whole, are treated sceptically by all coaches. They rely more on their own *subjective evaluation, since too many complex factors are involved*.

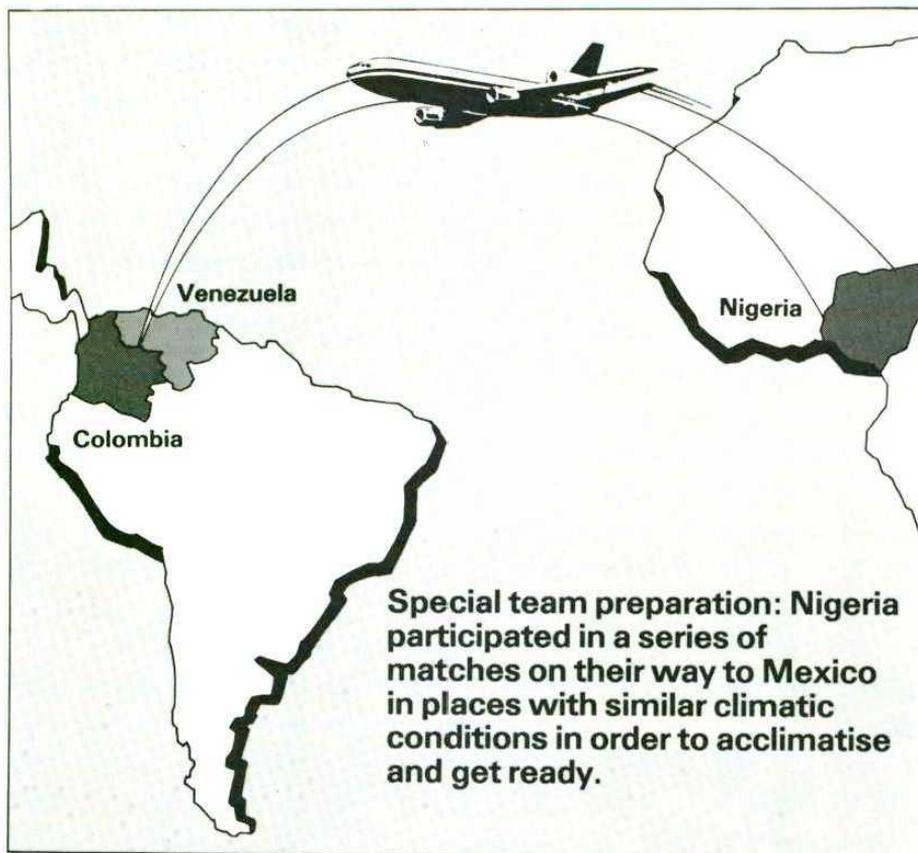




Special team preparation: the Netherlands took advantage of the central situation of its sports school in Zeist for weekly training sessions.

It is worthwhile noting however, that the results of physical and conditioning tests largely agree with those of medical tests. The following extracts provide a basic introduction to this important area, and taken in conjunction with the test procedures (also reproduced here) should help answer many possible questions.

The test results to be found at the end of this chapter were kindly made available by the Austrian Football Association and provide a valuable addition for the practical evaluation of the conditioning tests. Results of spirometric examinations are also most clearly provided and permit a glimpse of the sport-medical side of team preparation.



Training Limitations for Young Players From the Sport-medical Angle

Growth and maturing on one side, and intensive training on the other, demand that young players receive adequate sport-medical and scientific attention, if psycho-physical damage is to be avoided during the training process.

The question arises: under what conditions should training incentives be set, and how should they be distributed in order to avoid damage and yet achieve optimal development.

A prerequisite for answering this question is a knowledge of the development process (and its limitations) during childhood and youth. Without going more deeply into the various stages of the development of young people in the different characteristic periods, it can be said to involve coordination, flexibility, strength, speed and stamina.

Coordination

Improvement in coordination begins soon after birth. The optimum level is reached at different ages depending on pre-schooling and the kind of effort required from the different muscle groups, but for movements that have not been specially practiced it should peak between 20 and 25 years of age. The earlier difficult coordination movements are practiced, the earlier the quality of this exercise will improve. A prerequisite, however, is a broadly based development of all motor characteristics, to avoid one-sided specialisation in childhood or youth.

Flexibility

Flexibility, or the arbitrary possible range of movement of one or more joints is a motor activity that reaches its maximum during the transition from childhood to youth and then declines. Flexibility exercises are designed to develop as great a range of movement as possible in young people and to maintain this during later years.

Strength

Of all the different forms of strength, static strength is the most basic. In contrast to earlier opinion, which held that maximum static strength was achieved on average in the 20's, recent differential methods of determination have shown that, depending on the demands made of the different muscle groups and on acceleration, this occurs between 18 and 22. Before the age of 10, strength training can only really improve static strength by improving coordination, but hardly produces any increase in muscle tissue cross-section. Upright-training with dumbbells, particularly in the overhead position, before the age of 12 to 14 can lead to damage or deformation, particularly in the spinal area.

Without previous examination by a sport doctor, strength training should not be started, especially among young people. If any deformation is noticed, the person concerned should strictly avoid any strength training which stresses the area concerned.

This medical requirement also applies to strength training on modern training devices, even though these permit static and dynamic strength work to be carried out lying down or in an inclined position, thus relieving the spine.

Speed

Maximum speed in the sense of speed off the mark is attained by youths between 18 and 22. Speed training—for example up to a 20 sec effort—is regarded by Hollmann as harmless for healthy children and youths. Extending the time of this effort runs over into the realm of speed stamina or general anaerobic dynamic stamina. Such efforts lead to noticeable metabolic changes, e.g. very high lactic acid levels.

When training for performance in the speed stamina combination, youths should have longer rest periods between efforts than adults. The guiding factor for this type of youth-training is the pulse rate.

Stamina

Oxygen absorption reaches its maximum between 18 and 19. The development of heart volume, beat volume, flow rate, blood volume and diffusive capacity of the lungs all develop in step with oxygen absorption. Maximum ventilatory capacity precedes cardio-circulatory by one or two years.

Hollmann, Reindell and others have carried out many investigations showing that for healthy young people the risk of overexerting the cardio-pulmonary system during stamina training is not serious in terms of either the intensity or the duration of the training. Instability in the vegetative-endocrine system, often observed during the formative years, is often improved by well-planned training.

The question as to the age at which the maximum percentage trainability in terms of general aerobic stamina occurs is still subject to debate. The absolute maximum trainability and probably also a greater percentage trainability than for adults under similar training conditions is thought to be during the pre-puberty and puberty stages.

Before embarking on a serious training programme, an athlete should undergo clinical and orthopaedic examinations to detect any possible irregularities. Regular check-ups during training are also important since the maintenance of a healthy condition is obviously a requirement for training and competition. Performance diagnosis should be carried out 2 or 3 times per year and compared with the actual achievement shown in training, to provide a basis on which to plan future training.

The importance of good cooperation between athlete, coach and the sport doctor should be emphasised, since this is ultimately responsible for the athlete's health and hence for his sporting development.

Carrying out Sports Motor Tests

Sports motor tests have become an integral part of a planned programme of improvement. The following group of tests forms a means of evaluating basic motor characteristics.

- Test I* - 1500 m run (general stamina)
- Test II* - Sitting - getting up (speed, strength, stamina of leg muscles)
- Test III* - index run (speed stamina) consisting of
 - a) 50 m sprint (starting speed)
 - b) 200 m run (strength, speed, stamina)

Test IV - 30 m hop on one leg (speed, strength of leg muscles)

Test V - Figure 8 run (starting speed after changing direction manoeuvrability)

Test VI - Heading a hanging ball

Test VII - throw-in with medicine ball (double-arm throwing strength)

Exact test direction are given in the *appendix*. These game-related conditioning tests for footballers have been tested in the light of the required scientific criteria.

Game-Relevant Conditioning Tests for Footballers

1500 m run

Main motor characteristic being tested: general stamina, speed endurance.

Test Procedure:

Players should run the course as fast as possible. All start together. Standing start.

Runners are informed of their intermediate times. Time keeper counts off seconds at the end of the run, helpers note down the runners' times so that only one timepiece is needed.

Equipment: Stop watch, track, measuring tape; if no track is available, the 1,500 m run can be carried out round the perimeter of the football field.

Hints, Sources of Error: exact measurement of distance, no meals just befor start, choosing suitable pace.



Factor "Motor Endurance"

Best value:	4:11 min
Norms:	5:13 min
Standard value:	4:53 min

Sitting—Jumping Up

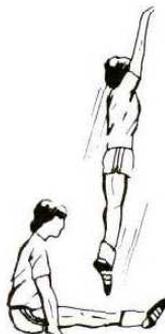
Main motor characteristic being tested: speed-strength-endurance of leg muscles, speed endurance.

Test Procedure

From a stretched sitting position, hand touching the floor, the player has to get up and jump into the air with knees and ankles stretched, then return to sitting position. The number of correct repeats executed in 90 s is noted.

Equipment: watch

Hints, Sources of Error: Time announcements every 30 s and 15 s before the end; starting too fast; stretching knee in starting position; too little jump.



Sitting—Jumping Up

Best value:	53 repeats
Norms:	38 repeats
Standard value:	42 repeats

Index Run

Main motor characteristics tested: speed endurance

Test Procedure

After the 50 m run comes a long rest (complete recovery), then the 200 m start.

The indicator used as a measure of speed endurance is the difference between the 200 m time and four times the 50 m time (e.g. 50 m in 6.5 s; 200 m in 25.2 s; time difference -0.8 s).

Equipment: stop watch

Hints. Sources of Error: see 50 m sprint

“Speed Endurance” Factor*Index Run*

Best value:	2.8 s
Norms:	0.2 s
Standard value:	1.3 s

50 m Sprint

Main motor characteristic being tested: starting speed

Test Procedure

Standing start, front foot on starting line. Starting orders “On your marks—get set—go” are given by the time-keeper who stands by the finishing line, accompanying his verbal commands with simultaneous arm movements.

Players run in pairs of approximately equal ability. Each player has only one attempt. A helper controls the start. Thorough warming up of the leg muscles is essential.

Equipment: 2 Stop watches, start and finish lines, flat and level track, measuring tape to get distance correct.

Hints. Sources of Error: Timekeeper should be practised in operating 2 watches simultaneously; false starts, inaccurate timing.



Speed-Strength Factor

(starting speed, sprinting speed)

50 m Sprint

Best value:	6.0 s
Norms:	6.6 s
Standard value:	6.4 s

200 m Run

Main motor characteristic being tested: speed endurance, speed-strength.

Test Procedure

The prescribed distance is covered as fast as possible from a standing start. Starting orders "On your marks — get set — go" are given by a helper at the start. Players run in pairs of approximately equal ability.

Equipment: 2 stop watches; if no 200 m track is available then the distance must be measured out and clearly marked.

200 m Run

Best value:	23.5 s
Norms:	26.2 s
Standard value:	24.9 s

30 m One-leg Hop

Main motor characteristic being tested: speed-strength of leg muscles in one-leg hopping.

Test Procedure

Player stands with the jumping leg touching the starting line, the other leg trailing unweighted in a normal position one pace behind. When the start signal is given the player hops the course as fast as possible. Starting orders "On your marks — get set — go" are given by the time-keeper who stands by the finishing line, accompanying his verbal commands with simultaneous arm movements. Players start in pairs of approximately equal ability. Each player has only one attempt. A few practice hops from the starting position are allowed in preparation. A helper controls the start.



Equipment: 2 stop watches, start and finish lines, flat and level track, measuring tape for distance.

Hints, Sources of Error: No changing legs, time-keeper should be practised in operating 2 watches simultaneously, inaccurate timing

30 m One-leg Hop

Best value: 5.1 s
 Norms: 5.9 s
 Standard value: 5.5 s

Double Figure-8 Run

Main motor characteristic being measured: starting speed after changing direction (manoeuvrability)

Test Procedure

Player runs twice in figure-8 course round two posts set 7 m apart. Start and finish level with first post. Starting signal given. Each player has only one attempt.

Equipment: Stop watch, 2 posts, measuring tape.

Hints, Sources of Error: Player must wear football shoes. The turns must be on firm, not slippery turf. No touching the posts. Slipping.

Double Figure-8 Run

Best value: 7.8 s
 Norms: 8.3 s
 Standard value: 8.1 s

Heading a Hanging Ball

Main motor characteristic being tested: explosive force of the leg extension muscles in one-footed jump (jumping strength).

Test Procedure

The player stands underneath the hanging, adjustable ball. After the tester has measured his height, the player takes a few steps back, then runs up and tries to head the ball with his forehead, taking off from one foot.



The vertical difference between the player's height and the height of the ball is raised by amounts determined by the player until he fails three times at a given level.

Thorough warm-up of the leg muscles is essential.

Equipment: Special test equipment (jumping pendulum: collapsible mini hanging ball device with measuring scale) is hung on a goal post.

Hints, Sources of Error: No difference in ground level between take-off point and measuring point; *short run-up suffices; the number of jumps should be kept to a minimum to avoid fatigue and waste of time; experienced testers can estimate a player's potential after one or two jumps and advise him accordingly about height selection; two-footed take-off not allowed.*

Heading a Hanging Ball

Best value: 95 cm

Norms: 77 cm

Standard value: 83 cm



Throw-in with Medicine Ball

Main motor characteristic being tested: double-arm throwing strength

Test Procedures

Player carries out a standing throw-in with a medicine ball, both hands evenly above the head. The feet may not leave the ground nor overstep the throw-in line. Legs apart or stride position allowed.

Distance is measured to nearest 10 cm. Best of two throws counts. Careful warm-up essential (e.g. several easy practice throws).

Equipment: medicine ball (3 kg), measuring tape, marked line.

Hints, Sources of Error: Foul throws

Throw-in

Best value: 13.9 m

Norms: 10.2 m

Standard value: 11.6 m

An important consideration in studying the special motor characteristics of footballers is the relative weighting to be given to each characteristic, and to the tests that measure them. The question needs to be answered as to what part each factor—speed strength, speed endurance, explosive strength and motor endurance—plays in the overall picture. What weight should be attached to the tests used to determine the individual components. For dealing with such a complex situation as the measurement of condition it would be desirable to have an overall points table, incorporating the relative importance of the individual motor activities and the tests that measure them.

Muscle-strength Training for Young People

Initially the strong natural tendency to play games can be taken as sufficient for the bodily development of 6 to 10 year olds (circulation exercise through play) but then a strengthening of the musculature should be worked in. This is particularly important since at this stage of development the foundations are laid for future physical and sports activities. *In this phase of development, however, only the body itself should be used as a weight factor.*

With the onset of puberty, between 12 and 14 usually, the development of young persons enters a transition characterised by mental and physical uncertainty. During this difficult period heavy physical exertion should be avoided, although all sorts of equipment (parallel bars, hollow and filled balls, sand bags, shot) can be employed to develop physical strength. The *emphasis is still on using the body itself as the load.*

From 15 on, very varied stages of development are encountered — alongside the almost fully grown one sees children — of the same age, but still in the pubertal or pre-pubertal stage.

Nowadays muscle-training methods or even straight weight training are used with this age group, so trainers and exercise leaders must adjust load levels to the biological age of their pupils and also take into account their state of development. After puberty youths can only undertake a muscle training programme similar to those for adults *if they have already been through a general strengthening course and are also sufficiently muscularly well-trained.*

Although much has been said about muscle building training for young people, we believe that much of it is still only hypothetical, since there is not enough evidence from the world of sport.

Circuit Training

Time per station and changing stations

The time for each exercise is 30 s. For changing stations and recording achievement another 30 s is allowed. An acoustic signal should indicate the start and finish of each exercise.

Entering results on record card

The results at each station are noted on the record card during the break. Instructions for each station are given there (see example).

Maximum Single Test (MST)

Once the pupils have learned to carry out the exercises smoothly and correctly, then at the start of each programme a Maximum Single Test can be carried out. Each pupil's maximum performance at each exercise is tested. Between every 30 s of exercise there should be enough time for complete recovery usually 4 to 5 minutes. The maximum values are entered in the MST column. The purpose of the MST is to determine the initial rate for starting the programme.

Maximum Programme Test (MPT)

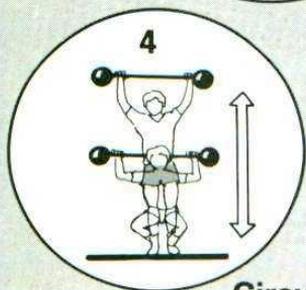
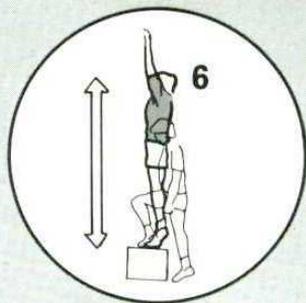
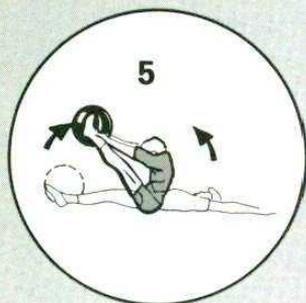
After the MST, the actual programme work begins with the MPT, 50% of the MST values forming the basis of the programme. To get through the entire programme successfully energy has to be used wisely and over-exertion avoided. After every four weeks of training new target levels can be set for each pupil at each station.

Final Test (FT)

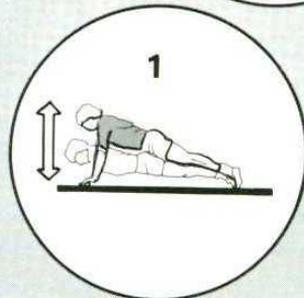
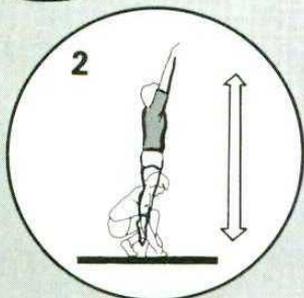
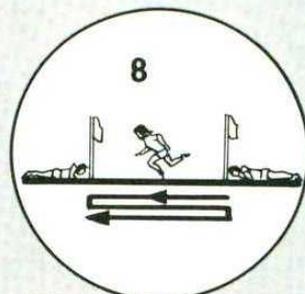
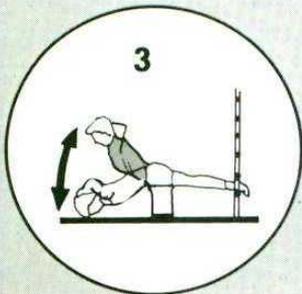
After four weeks of training a final test or examination is carried out, during which pupils demonstrate their maximum performance. This FT comprises a Maximum Programme Test (MPT). A Maximum Single Test can also be carried out, thus providing a better overall picture.

Pulse Rate Measurement (PR)

In order to measure the adaptability of the body to exertion, and thus to determine improvement in physical performance, a whole range of physiological factors can be measured, but only in the laboratory with the assistance of a number of measuring instruments and equipment. However, a simple means of observing how the circulatory system adjusts to circumstances is available for everybody, by frequent checks on pulse rate. An indication of improved circulatory regulation is a more rapid drop in pulse rate after exertion. *"Physiological research has shown that a pulse rate of 180/200 beats per minute indicates the correct level of exertion. If the pulse rate rises above 200 the volume pumped per minute actually falls, despite the increase, in other words the cardio-circulatory system becomes uneconomical. A drop in*



Circuit training is one way of improving a footballer's muscular strength.



Preparation for 1983 World Youth Championship Lactate Tests Summary

8.11.1982

1.5.1983

30.5.1983

1st Test Run

Intermediate times

average	18,7 s	19,43 s	18,53 s
fastest	17,9 s	18,38 s	17,46 s
slowest	19,9 s	20,22 s	19,55 s

Final times

average	39,5 s	40,71 s	38,29 s
fastest	37,8 s	38,88 s	36,85 s
slowest	42,1 s	42,77 s	40,01 s

2nd Test Run

Intermediate times

average	19,4 s	19,89 s	19,27 s
fastest	18,4 s	19,06 s	18,14 s
slowest	20,7 s	20,50 s	20,61 s

Final times

average	40,3 s	41,46 s	39,61 s
fastest	38,3 s	40,11 s	37,41 s
slowest	43,4 s	42,31 s	42,39 s

Max. Lactate Production

average	15,0 mmol/l	15,33 mmol/l	15,85 mmol/l
highest	17,4 mmol/l	19,00 mmol/l	21,00 mmol/l
lowest	13,2 mmol/l	11,60 mmol/l	12,80 mmol/l

Time of max. Lactate Output

average	5,64 min	4,6 min	5,00 min
earliest	3 min	3 min	3 min
latest	10 min	10 min	10 min

Lactate Concentration E₁₅

average	11,8 mmol/l	9,49 mmol/l	12,18 mmol/l
highest	15,4 mmol/l	15,2 mmol/l	17,0 mmol/l
lowest	9,0 mmol/l	3,6 mmol/l	8,0 mmol/l

Team: Youth Football Team

Date: 8.10.82. Time: 3 p.m.
 Ground conditions: turf, slippery
 Place: Lindabrunn
 Weather: some wind

When assessing values, one must consider that the pitch was very slippery and that the players had long trek suits on. Several slipped at the turns and even fell.

Individual warming-up was carried out properly. The speed level was good on the average. Speed endurance was average, some players were top-rate though. Getting energy together was favourable to average. The elimination of lactates was average to slightly delayed. Recuperation was slightly delayed. Tolerance to lactates was average.

There is therefore a good departure point for the next preparatory period which must take the individual differences into account, however.

Speed endurance in the practice and preparatory periods must be increased at all costs. Very intensive coordinating instruction in winter would be beneficial. Moreover, the resilience level must be raised without fail.

In order to improve capacity, loads with maximum intensity and a duration (activity) of up to 1 minute would be appropriate. For example, 3-5 times 10×30 m with 15 min interval and a pause in series of 15 min or 3-5 times 180 m alternative sprints with 15 min pause or 3-5 times 300 m sprint with a long pause.

In order to improve tolerance, different interval loads could be applied. A sub-maximal intensity would be correct in the case of insufficient recuperation.

The assessment of individual players was done separately.

Team: World Cup Youth Football Team

Date: 1 May 1983. Time: 6 p.m.
 Ground conditions: turf
 Place: Linz sports ground
 Weather: cool and rainy

When judging teams, one should remember that players are only employed sporadically in the present competition season and not too much can be expected from them in their physical condition.

Warming-up at the test in November was good. In comparison to the investigations made in November, test values were considerably worse. Only recuperation has improved in comparison to the previous examination. The following change could be recorded:

Speed level:	worse (∅ 0.7 s)
Speed endurance level:	worse (∅ 1.2 s)
Providing energy:	slightly less favourable
Recuperation:	better
Tolerance to lactates:	worse (∅ 1.0 s)

Increased speed and speed endurance should be absolutely indispensable and should be especially considered at training camp. In view of the short duration of imminent World Cup preparations, an increase can only be slight. Exact recommendations are given for training at the training camp.

Procedure

1. Basic Sport Medical Examination

The basic sport medical examination was carried out in autumn 1982 at the Institute for Sports Medicine. After determining the general health level, a spiro-ergometric examination followed, on the tread-mill. This performance test provides information about players' organic capabilities (VO_2max , heart and recovery rates, breathing patterns, ...). Endurance, as measured by the parameter of maximum oxygen absorption, was shown by the test results to be satisfactory. The players' results turned out to be 5% lower than those of the German national-A side, which had previously been published. Comparison with the Austrian national team (January 1982) gave an average reading 2.0 ml/kg/min better oxygen absorption figure for the juniors.

2. Outdoor Testing

During a short course in the autumn at the Sport School Lindabrunn, a football-specific test was carried out. This test revealed the actual levels of speed and speed endurance, the muscular strain involved (via lactate determination) and the players' powers of recovery. The findings indicated an average speed and speed endurance level that definitely needed improvement.

3. Training Recommendations

Based on the spiro-ergometric examination and the outdoor tests, a general training outline was worked out, which was communicated to the players and the club trainers. These recommendations were consciously made general so that the trainers had some flexibility.

4. Direct Preparation for High Altitude Training

Two weeks before altitude training began, players were sent a training programme which was to serve as a basis for the efforts that would be required of them in the training camp. These instructions were also sent to the coaches and their help was requested. Simultaneously players

were asked to report to the nearest available centre for a complete blood check. Later discussions with players revealed that this preparatory programme had not really been followed (incompatible with club training, trainer unwilling, ...) so that at the start of the training camp a reduction of the planned intensity became necessary.

5. Performance Determination Before the High Altitude Camp

Immediately before the camp began a football-specific test was carried out in Lienz, and also a modified Cooper test. This determined the players' current condition and was also used to set the level of training intensity for each player on arrival at Zetttersfeld. Comparison with the results of the previous autumn's test (Lindabrunn) with those of Lienz showed a deterioration of the whole team. Particularly noticeable was the decrease in starting speed. Energy release was less economical, recovery better. It was concluded that there had been adequate training for endurance (confirmed by the Cooper test), but that the training recommendations regarding speed and speed-endurance had received too little attention. This facet therefore should receive special attention in the high altitude camp.

6. Altitude Camp

The high altitude training was carried out between 1,800 and 2,000 m. Two training sessions were held per day, and care was taken to obtain a proper balance between the strenuous elements and more relaxing exercises. The programme was rounded off by regular physiotherapeutical sessions (massage, swimming, sauna, ...). To avoid overexertion, polarity tests were carried out before and after every training to determine the subjective opinion of the players. Training was usually run in groups, based on the results of the tests previously held. All the players were most cooperative, although they had considerable difficulty at the beginning in adjusting to the altitude. Careful attention was paid to the two convalescent

players, Tatar and Weinrich, who had to build up their fitness level after a long break in training. Since players had to return to their clubs each weekend, and be in a fit state to play when they arrived back, training was reduced the day before departure. Some players complained of reacclimatisation problems after returning to Zettlersfeld, particularly in respect of sleep and recuperation. However, special diet and optimal physiotherapeutical treatment never failed to solve these problems. As time went on the players felt considerably better, and this was apparent in day-to-day training. The game against Algeria was proof of the good standard reached.

During the whole time in the altitude camp, the players' intake regularly included vitamin, iron and electrolyte preparations, in addition to their normal food. During the last week prophylactic medical treatment was started (typhus, malaria).

7. Recuperation

Because of the repeated interruptions, the originally-planned recuperation week had to be altered to some extent, and while the amount of training was to be reduced, the intensity was to be maintained. This programme was given to the players to take home and also communicated to their clubs with a request that they adhere to it. Later enquiries revealed that few players had actually followed these instructions.

8. Performance Test

Immediately prior to the team's departure for Mexico the standard test was repeated at the University Sport Centre in Vienna and a clear improvement in performance was determined. Not only did the results surpass those of the previous autumn, but, most encouragingly, they were also better than those of all previously tested teams (national team, 1st division, 2nd division, ...). This outcome provided impressive confirmation of the appropriateness of the team's training. Those players who took part in league games with their clubs in the period just before departure also turned in very good performances.

Analysis and Summary

This summary must be limited to an analysis of conditioning aspects only, which are also available in the form of the results of the sports medical tests.

From the start the preparatory programme had to be a compromise because of the requirements of the national league. A big unknown was how the constant shifting between high, and for our country normal, altitudes would affect the players. Close observation of the players, and the parallel performance tests, showed no significant interference with the progress of their development in conditioning. However, this kind of programme is not recommended since mental adjustment problems and vegetative reactions were indeed noticed. It was also far from ideal that for technical training the team had to return to the lowlands, since there are no football pitches in Austria at 2,000 m. Thus the technical and coordination effects of altitude could not be included.

A further problem that could not be solved was pre-adjustment to Mexican climatic conditions. At Austrian altitudes temperatures at 2,000 m seldom exceed 15 °C even during fine weather, whereas in Mexico 40 °C temperatures were to be expected.

The much-feared problem of camp tension was not in the least evident. This is primarily due to the good atmosphere within the team and to proper use of recreation time. The excellent staff in the Berghaus Pepi Stiegler, the trainers and the masseurs also helped considerably in this respect. The appropriate diet for such a training camp also contributed to faster recuperation.

The independent training that the players were supposed to do at home was either not done at all or only very seldom. Not following the suggested programme could lead either to a feeling of over-exertion because of the demands of the training, which is greater in altitude camps than in the lowlands, or in particular to a «post-altitude training» too-early development of top form. In future more attention must be paid to ensuring that such instructions are followed.

All these different points need to be considered in connection with the World Cup in Mexico in 1986, with acclimatisation to the local conditions receiving special attention (= high-altitude camp abroad or in Mexico?)

Hans Holdhaus, Verein zur medizinischen und sportwissenschaftlichen Beratung
Possingergasse 2, 1150 Wien

Spiroergometric Examination / Autumn 1982 (September, October)

1	2	3	4	5	6	7	8	9	10	11	
14.8	137.2	4.15	61.9	197	11.2	52.4	180	84.6	67	175	D
16.6	159.5	4.66	62.2	196	12.2	52.1	182	83.2	75	182	L
15.3	128.7	4.66	60.6	200	12.2	52.6	189	86.7	77	178	M
16.5	130.3	4.54	62.2	196	12.6	53.0	173	85.2	73	176	M
15.1	119.7	3.88	58.0	206	10.6	50.0	184	86.2	67	169	D
16.0	145.3	4.74	61.6	203	12.3	52.6	182	85.3	77	177	F
15.6	127.3	4.37	60.0	186	11.3	46.0	166	76.6	73	179	G
15.6	149.1	4.69	59.4	223	11.2	43.0	190	72.1	79	182	G
16.0	131.2	4.27	60.2	201	11.7	45.6	174	75.7	71	177	F
14.3	148.3	3.98	55.4	209	-8.0	36.9	174	66.6	72	177	F
15.6	137.9	3.83	60.8	188	12.2	51.9	176	85.3	63	173	M
16.3	146.2	3.82	61.6	185	11.9	45.9	163	74.3	62	174	M
16.3	138.5	4.56	60.8	197	12.3	53.0	180	87.1	75	180	D
16.7	119.5	3.61	62.3	198	12.2	54.9	176	88.1	58	170	M
16.0	126.7	4.06	59.8	213	10.6	44.0	170	73.5	68	178	G
15.78	136.36	4.25	60.45	199.8	11.5	48.92	177.2	80.7	70.46	176.5	

1 = Speed on running belt

2 = Breathing-Minutes-Volume/Litre

3 = Maximum Breathing-Minutes-Volume/Litre

4 = Maximum Breathing-Minutes-Volume/Load in kg

5 = Maximum Pulse Frequency

6 = Load with Respiratory Distress Syndrome

7 = Respiratory Volume with Respiratory Distress Syndrome

8 = Pulse Frequency with Respiratory Distress Syndrome

9 = Respiratory Distress Syndrome

10 = Weight in kg

11 = Height

D = Defender

L = Libero

M = Midfielder

F = Forward

G = Goalkeeper

Twelve of the players listed in this report were nominated for the final round.

Weight	Height	Vital Capacity	Coefficients in Seconds	Hemoglobin HB	Wattage	Maximum Respiratory Volume	Max. Pulse Rate	Pulse Rate after 3 min
kg	m	l	%	g%		l		
69.0	1.73	4.8	91	13.6	325 (1')	3.82	180	115
69.7	1.82.5	4.9	77	13.1	300 (2')	4.05	180	110
78.5	1.82.5	3.8	89	12.9	275 (½')	3.51	178	120
75.5	1.81.5	5.0	76	13.8	275 (2')	4.02	175	105
71.1	1.68	4.0	95	14.3	250 (1')	3.00	180	100
65.7	1.75	4.3	80	13.3	300 (½')	3.73	180	120
74.6	1.84.5	4.7	91	13.3	300 (½')	3.80	180	120
73.1	1.81.5	5.4	92	14.2	300 (½')	3.36	180	115
82.5	1.88.5	5.4	88	14.4	275 (2')	3.95	170	120
77.3	1.77	3.9	82	14.1	300 (2')	3.94	180	150
66.5	1.69	4.1	87	14.0	300 (2')	3.26		
75.2	1.79.5	4.8	83	13.5	325 (2')	3.94		
69.0	1.76	4.0	95	15.0	312 (2')	3.8	162	94
69.0	1.80	4.7	87	15.1	346 (2')	3.85	186	132

The example given here may be taken as representative of this kind of test, although it is possible that some teams prepared more than others in certain respects.

A common factor in preparation for Mexico was a thorough medical examination, an obvious requirement in the circumstances.

It has already been mentioned that some teams attempted to prepare for the Mexican conditions in their own countries.

Clearly, simulation of a strange environment is not always possible, usually one factor being reproducible but not the whole range of environmental conditions.

Studying a few examples shows that altitude was the factor that received most attention, and this will be discussed further, later in this report.

Obviously better preparation could be achieved by playing tour matches in Mexico or nearby countries with comparable environmental conditions.

This method of preparation also included another preparatory factor in that teams playing several closely-spaced tour matches were experiencing the rhythm of this kind of tournament.

Adjustment to this kind of match rhythm was regarded as being of such significance that the Netherlands, for example, ran an invitational tournament at Whitsun in which the following teams participated:

The "Dr. João Havelange" Tournament in Mexico in November/December 1982

can also be considered under the heading of this type of preparation.

In some countries where lack of time prevented thorough preparation in all aspects, specific programmes were developed to provide as intensive a preparation as the time available would permit.

Scotland provides an example here. The demands of club football meant that little time was available for preparation at home, so a transit stop in the USA (Colorado) was planned, where the team adjusted to high altitude conditions and also played 2 games against the USA youth team to simulate tournament conditions (diagram 33).

Later results showed that the time of arrival is also a factor that should be considered in planning for this type of event.

This factor contains a number of elements of uncertainty, since players travelling from one continent to another have to contend not only with geographical differences such as altitude and climate, but also face time-differences, unusual food and eating habits etc.

Summary

Purely footballing preparation is carried out within the framework of the association.

Medical examinations are often considered as part of the physical build-up.

Preparation for the final round consists specifically of:

1. Competitive tours, as far as possible

to places with the same natural conditions as those to be found in Mexico (long range preparation).

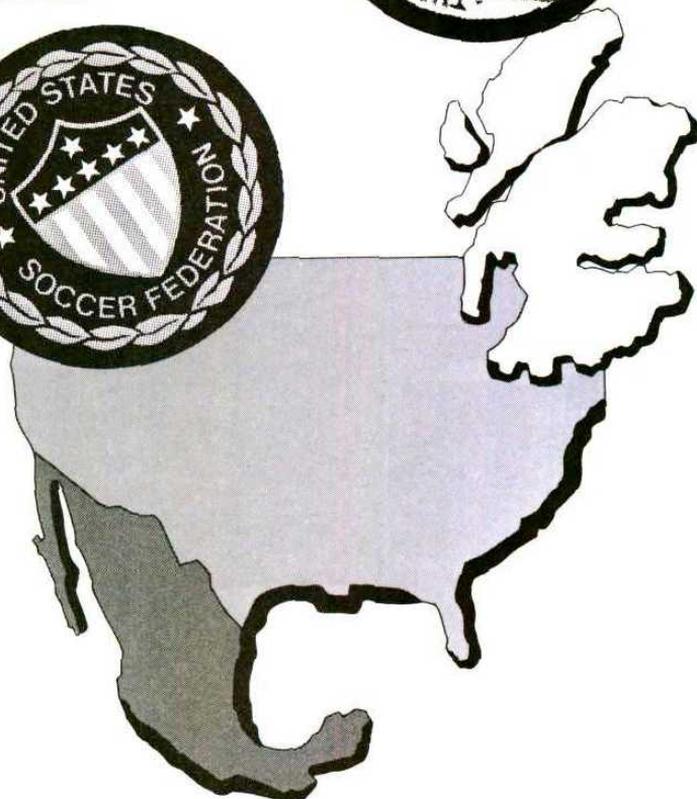
2. Preparation at home, if possible simulating certain of the conditions to be expected e.g. climate, altitude, tournament rhythm (medium-range planning).

3. Preparation on the way to Mexico; adjustment over a relatively short period.





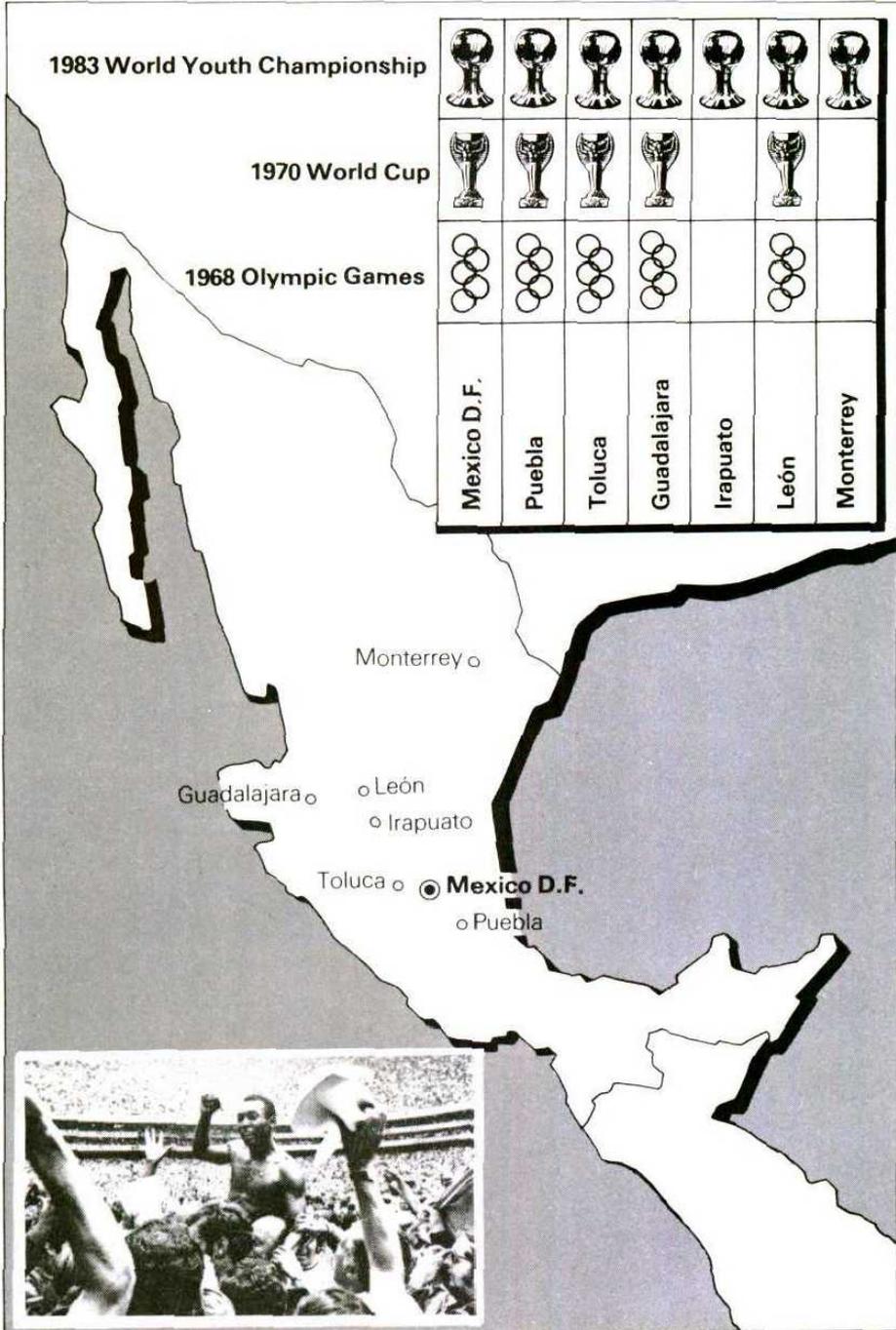
The United States Airforce Academy in Colorado Springs (USA), a famous high altitude training centre, served as base for preparatory stages of teams from USA and Scotland.



Environmental factors influencing performance



Altitude
Temperature
Humidity
Population
Travel
Adjustment to Time



The Effects of Environmental Conditions on the Performance of Teams During the World Youth Championship in Mexico 1983

When the decision was made to hold the World Youth Championship in Mexico, certain thoughts were expressed about exposing young footballers to "extreme environmental conditions".

Such criticism did not fully consider the findings which the sports organisations in Mexico had already gathered.

The 1968 Olympic Games in Mexico had led to certain conclusions, but these were not necessarily valid in 1983 since the intervening years have seen a noticeable increase in the adaptability of people in general, and of athletes in particular.

There is no doubt that the results obtained during the Olympic Games in Mexico in some disciplines were favoured by the environmental conditions.

Most affected were the performances in athletics, swimming, cycling and related events.

However, these are sports that cannot immediately be compared with football.

Firstly, they are sports in which pure speed or endurance have a decisive influence on performance.

Football, however, is a sport in which physical condition alone is not decisive.

Secondly, the sports mentioned above are of individual nature, whereas football

is a team game. A consequence of this is that the efforts of the team are spread out among the whole group and seldom lead to total exhaustion.

However, Olympic Games also include a football tournament and so direct comparisons are possible using the report prepared at that time.

This is how the members of the Technical Study Group saw the 1968 Olympic Tournament (diagram 34).

Altitude, Performance, Regeneration

It is not necessary to repeat the published medical reports on the special circumstances in Mexico. They are translated in many languages, and available in almost all countries, but reference to these reports as well as of our observations and experiences compiled during the Olympic Games are given below.

Firstly, it must be stressed that the special conditions in Mexico confront the coaches with difficult psychological problems. Almost every player has heard too much of altitude, oxygen shortage, danger for heart and circulation, fatigue and acclimatisation. There is a danger that the players become hypochondriacs. The special conditions in Mexico must not be underestimated, nor exaggerated. Football is a game to be played by men; and they need not only physical, but also psychical robustness.

Knowledge, authority and the ability to handle men were never so important for a coach as in Mexico.

The following ten items may be useful for the preparation of the World Cup 1970:

1. Through a well-balanced proportion of training and competition, the top form must be reached prior to the arrival in Mexico. Un-aerobic and aerobic training which should be combined are needed and comply with the match requirements. In Mexico, the players need especially un-aerobic sources of energy. One important source of this kind is glycogen. Through un-aerobic training methods and special diet, glycogen is accumulated in the muscular system.
2. Food containing high quantities of carbohydrate and protein should already be taken at home, but especially in Mexico. Iron and vitamin preparations have also to be taken regularly, and under the surveillance of the team doctor.
3. For better acclimatisation, the teams should arrive in Mexico three to four weeks before the first match. It is advisable to stay and to practice at the altitude of Toluca, i.e. 2700 m. above sea-level. In this way the acclimatisation difficulties at the lower level of the other places will be easier overcome. To prepare the teams at the lower level and to play later in Toluca would increase the difficulties. Also the referees need adequate acclimatisation in order to fulfill the special requirements in Mexico. Therefore, it is suggested that the Referees' Committee of FIFA invites the selected referees early to Mexico. They could arrive with the teams to attend a two- to three-weeks course in Mexico which will be organized by FIFA. The programme should include daily lectures, discussions, and films. Moreover there should be ninety minutes practical training daily. The training should be directed by an experienced coach. In this way, it is guaranteed that the referees are as well prepared as the players, that they will not suffer from health conditions, and that they are up to every pace of the game.
4. Experience suggests that hard training should start immediately after arrival in Mexico. But all exercise is more fatiguing at altitude than at sea-level, and regeneration takes longer. Therefore, training must be strenuous but without reducing fitness. The process of acclimatisation, the measurement of training and the necessary regener-

ation must be well balanced. One week before the first match, training should be reduced, and three days before competition only light work-out should be done.

5. The change in the customary day-and-night rhythm which is very disturbing should be adjusted as soon as possible. Regular and sufficient sleep has to be enforced, if small doses of sleeping pills are necessary, training and acclimatisation will not be affected.
6. Hygienic measures are of greatest importance. Intestinal complaints with diarrhea occur very often. During the long stay of six to eight weeks, they are almost unavoidable.

Prophylactic measures are:

- 1 tablet Mexaform S three times daily,
- in serious cases treatment with Paraxin starting on the second day,
- or similar medicaments
- No drinking of water, and only using distilled water for teeth brushing
- Eat only peeled fruits,
- do not take any ice-cream,
- take no salads cleaned in tap water,
- do not drink fruit juice mixed with tap water,
- do not take any ice-cold drinks at all.

The last warning is particularly important because the World Cup Tournament is held from May 31st until June 21st, 1970, which is high summer-time in Mexico and very hot.

7. After heavy sweating the normal balance of fluid should be restored as quick as possible. The players, therefore, need mouth-warm drinks, sufficient doses of salt, calcium and vitamin C. Stewed fruits are also advisable.
8. Acclimatisation changes in the body are themselves fatiguing. After training and match, recovery takes longer at altitude than at sea-level. Therefore the process of regeneration has to be accelerated by warm baths, sauna-baths as the case may be, and massage are advisable.
9. Throat complaints like burning, scratching, pricking are the effects of hyperventilation. Mild nose oils, and inhalations with mitigating substances are helpful. The players must be prepared with suitable clothing for the changes in temperature.

10. It is easy to understand that the recreation programme has an important part in maintaining the spirit and the fitness of the players. Most of them are not accustomed to stay six to eight weeks together in one camp separated from their families. It is not necessary to enumerate all problems arising from this situation. Diversion is necessary. The recreation programme must already be prepared in the home country, and be completed in Mexico. In this respect, team officials and coaches may have to strain their inventive imagination.

Exceptional circumstances require exceptional measures and optimal preparation. Those who follow this experience will definitely overcome all problems in Mexico.

Following the 1968 Olympic Games, Mexico was the venue chosen for the 1970 World Cup, a competition that can be directly compared with the 1983 World Youth Championship, even though 13 years have elapsed in the meantime.

Many observers are of the opinion that the 1970 World Cup was one of the best that they had seen.

Most surprisingly, this fact seemed to have been forgotten when the 1983 World Youth Championship was assigned to Mexico. A further surprise was the re-awakening of the "altitude hysteria" mentioned above when the 1986 World Cup was also given to Mexico.

Mentioning just a few of the games of that tournament should recall memories of the 1970 World Cup.

England — Germany FR

England — Brazil

Italy — Germany FR

Brazil — Italy

One fact that cannot be disputed emerges from close analysis: The team that won was the one that had been adjusted to Mexican conditions, if it is accepted that all the teams had top-class players at their disposal.

With Italy and Brazil two teams reached the final whose tactical concepts included one common element:

Setting or changing the pace of a game.

Since 1970 it has become a part of every team's repertoire to be able to adjust its game to suit environmental conditions.

It is intentioned that environmental conditions as a whole are discussed here and not just altitude.

Just like snow or heat, grass or sand, rain or shine, or the opponent's style, so altitude is only one of a number of external factors.

It was clear in Mexico in 1970 that the European style was more tiring than the South Americans' economical adjustment of the physical and technical style of play.

It is worthwhile repeating what was said in the section on "Training Methods":

Speed and good technique are more economical and produce a more successful game than a style that is based upon endurance, strength and a lower technical level. (C.f. FIFA Report 1970.)

Acclimatisation

It is well-known that changes of environment, which affect physiological functions of the body, can also affect fitness and playing standards of football teams. Medical science has done much to prevent serious disturbances by using antidotes for virus infections, and saline intake to counteract loss of body salt through excessive dehydration. Experience at the time of the Olympic Games football tournament had dispelled the exaggerated fears about the ill-effects of playing football in Mexico. Nevertheless, the value of pre-acclimatisation experience and of a period of acclimatisation immediately before the World Cup final was accepted by most competing teams. Special acclimatisation outside their own countries was not necessary for the teams of Mexico, El Salvador and Peru.

Israel (Guadalajara and León), El Salvador (León), Bulgaria (León and Mexico City), Czechoslovakia (Guadalajara), Brazil (Puebla) had gained experience of match play at various stadia during the Olympic Games.

USSR, England, Germany FR and Bulgaria made special tours, some time before the World Cup final, to South America which included matches in Mexico.

Special training at high altitude some time before the assembly of the squad for the World Cup was arranged by Rumania (three weeks in the Carpathian Mountains), Czechoslovakia (two weeks at Font Romeu in France), Morocco (three weeks at 3,000 feet), Israel (ten days in Addis Ababa) and Bulgaria (Training camp in mountains).

However, the amount of acclimatisation just before the event in order to improve the oxygen uptake capacity of the blood is claimed to be the important factor. Critical altitudes are above 2,000 metres and acclimatisation at altitudes higher than this is said to improve oxygen uptake capacity more completely.

A comparison of the acclimatisation preparation just prior to the eighth-finals shows the importance which various countries attached to this physiological phenomenon. The lengths of the pre-competition period of acclimatisation are shown diagrammatically, but the detail of the programme is also of interest. (See attached programme.)

Uruguay placed great emphasis on the final spell of preparation. The squad left Montevideo on April 16 and played matches in Lima (Peru), then went on to special training and a match at Bogotá (Colombia). From there to Quito (Ecuador), down to sea level to Guayaquil and back for another match on May 13 at Bogota. The team arrived in Mexico on May 14 and went to their headquarters in Puebla.

Brazil and England left their countries a month before the competition for tours and matches in Mexico, Ecuador and Columbia.

USSR, Rumania and Bulgaria spent a fortnight in the mountains before flying to Mexico to arrive on May 10, 13 and 16 respectively. Czechoslovakia and Belgium went direct to Mexico arriving on May 7 and 9.

Most other teams arrived ten days to a fortnight before the first match. Germany FR arrived on May 16, going straight to León. They had planned to test all players for acclimatisation in a pressure chamber in Cologne but, in the event, the congested league programme due to bad weather prevented all players from taking these tests, and also curtailed the programme of general training, though two international matches were played in May before departure.

The deficiency of oxygen in the blood when performing strenuous activity at high altitude increases respiration rate and induces feelings of discomfort. Rumania found that, whereas at home a 100 metre run required on average two respirations, in Guadalajara an all-out sprint over this distance demanded five respirations.

Early arrival in Mexico was necessary for two other adaptation reasons, that of the body's adjustment to the time change, which takes between six to ten days to become acceptable, and that of performing strenuous activity under strong solar radiation, which causes heavy loss of body moisture with the discomfort of thirst.

The combined efforts of these changes caused some players to lose normal standards of physical condition which, in turn, affected playing standards. Reports on tests and individual case records, taken by medical officers, afford information of value to future competitions where environmental changes call for a period of acclimatisation, and where it is necessary to plan a programme to obtain the optimum performance levels.



Venues of the World Youth Championship

However, football is a game of skill, and it is possible therefore to use tactical and technical skill to control the speed of play. Several teams had developed a strategy of play which can be called 'stop-go' football, where the ball is 'held' or inter-passed defensively before the moment when it is decided to make an attack. It is possible that this kind of approach caused teams to concentrate on conserving energy and lessened the inclination to go 'all out' to fight for possession and counter attack. In contrast to this approach a few teams, like Brazil, Peru and Germany FR, excelled themselves in pressing forward in attacking play.

The fears associated with acclimatisation seemed to disappear as teams began to play and prove their stamina. Some teams grew in strength and belief in their skill as the competition progressed, none more so than Brazil, Italy, Germany FR and Uruguay who reached the semi-finals.

It would be wrong to discount the weakening effects of heat and high altitude; it would be equally wrong to exaggerate them. On the whole, full credit is due to all teams for the careful preparation and effort which provided a tournament of many outstanding games of football.

When comparing individual and team sports even the medical side of the matter is different.

In team sports the coach has the opportunity and also the duty to exploit every tactical component of the game. Otherwise he would have to delegate important functions and thus risk being held responsible for negative results due to factors largely beyond his control.

It should be added in conclusion, that in updating training methods the tactical side, e.g. the advantages of possession, change of pace, tactical delays etc. must be made clearer to young footballers and, most importantly, at an earlier age.

It is certainly no accident that studying the World Youth Championships in 1983

reveals certain parallels to the 1970 World Cup, as far as the finals and the course of the tournament are concerned.

It should be stated that, as far as we know, no youth player was hurt during the tournament.

Substitution statistics, to which reference is made elsewhere, show a similar curve to those of the 1982 World Cup, and this despite the fact that it was only a youth tournament.

To help explain here, it should be added that some of the games were played at very high temperatures (another environmental factor) and extra time was needed on occasions.

It is a fact that adjustment of tactics, technique and condition to suit the environmental conditions is an important aspect of preparatory training.

Tennis professionals of the same age (many of them girls) would not expect to use the fact that two consecutive tournaments were played under very different geographical conditions as an excuse for poor play.

This observation is all the more appropriate since tennis is an individual sport and matches often go on far longer than football games.

Football claims to be an universal sport, and so all environmental problems need to be faced, not just the question of altitude.

In the separate subsections the influence of other factors will be discussed.

Altitude

It has already been pointed out in the report on the 1982 World Cup in Spain that preparation in high altitude training camps has two functions:

- a) Adjustment to the altitude at which the tournament will be played, so that the team will perform better.
- b) As a way of increasing the team's stamina when they return to sea level.

For the World Youth Championship in Mexico point a) was more important:

Adjustment to the altitude of the tournament venue was the primary consideration.

The following diagram gives a statistical view of the venues for the World Youth Championship.

As the diagram shows, most of the venues were above 2,000 m. Exceptions were Guadalajara and especially Monterrey.

A cross-sectional presentation of the altitudes of the venues makes the relationship easier to comprehend.

The problem of altitude adjustment had to be faced primarily by those teams assigned to venues above 2,000 m when the draw for groups was made in February 1983.

For some teams the problem of "altitude" was relatively minor, since the programme shows that the USSR, Netherlands and Nigeria each played two games in Monterrey, which at an altitude of 538 m, did not indicate any great need

for adjustment or special training in this respect.

Travelling to Guadalajara, high but not extremely so, could be considered more as a tiring journey rather than as a serious altitude problem.

All other teams remained at much the same altitude after arrival, even if they had to travel to other parts of the country.

Here the effects of altitude should be considered in conjunction with those of travelling, which is more strenuous at higher altitudes.

The fact that performance analysis considers altitude in connection with other factors, e.g. travelling between venues, shows that these environmental conditions should not be considered in isolation.

The prospect of a team's having to play all its games at a high altitude would certainly be considered when planning the training programme.

Returning to the Nigerian team's special preparation for Mexico, one would be tempted to say that their good performance in the preliminary round, the altitude problem being insignificant, was due to their acclimatisation and above all to the physical condition of the team. Looked at in this light their preparatory efforts were fully rewarded by the victory over the Russians.

In the same group the Netherlands managed to qualify for the second round without any special altitude training preparation. Their early arrival provided a period of adjustment, so that the altitude increase from 538 m to 1,567 (Gua-

dalajara) and later up to 2,037 in León within 10 days did not cause any noticeable physical strain.

The team had sufficient talent to be able to lift its game another notch after the preliminary round.

The quarter-final defeat by Argentina was certainly not due to lack of conditioning alone.

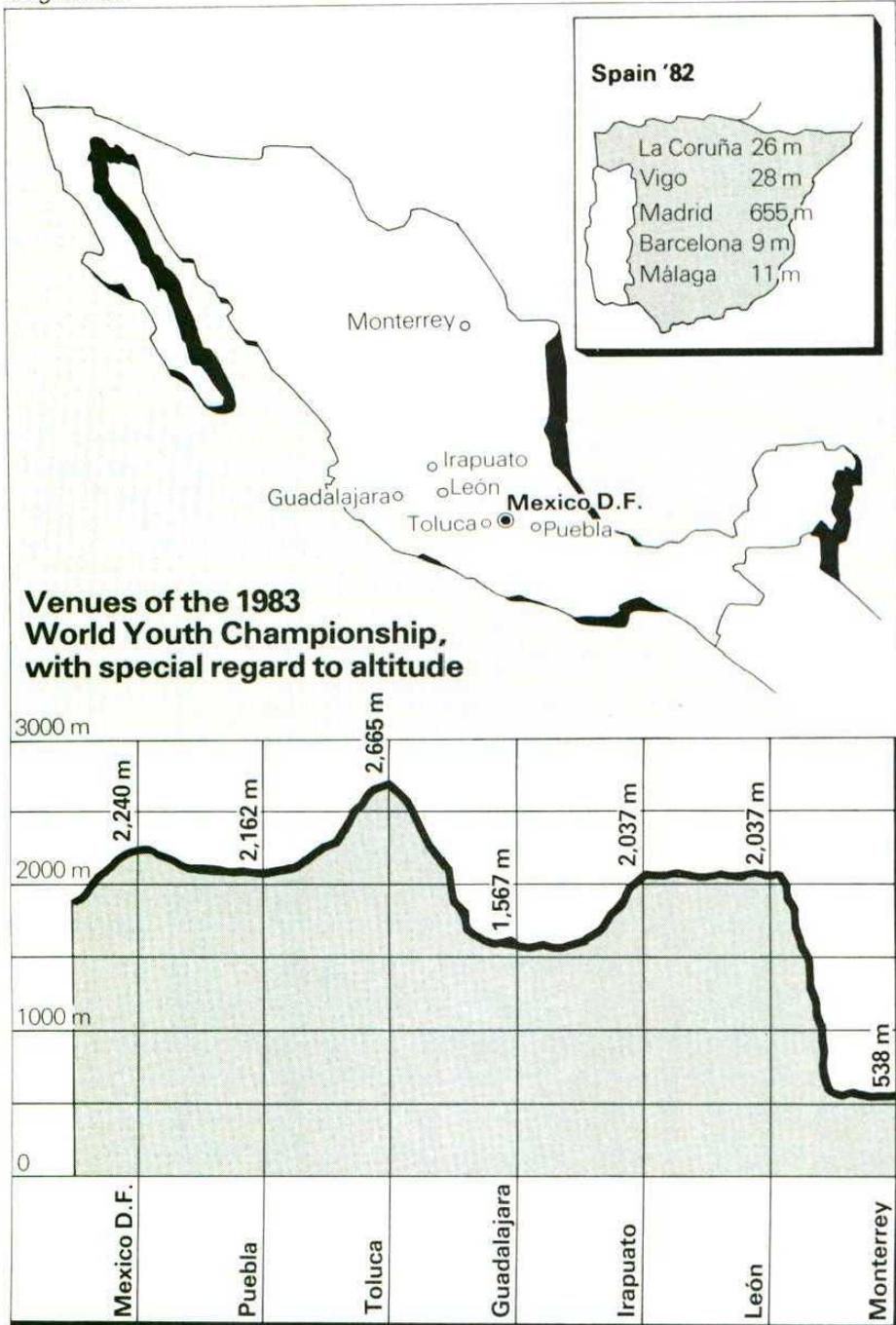
It seems surprising that teams which underwent systematic altitude training did not profit from this during the tournament.

Clear examples are provided by Scotland (Colorado) and Austria (high alti-

tude training camp); Austria failed to qualify for the 1/4-final and Scotland were eliminated by Poland in the 1/4-final.

These teams' own analysis will possibly provide some explanation, but it can safely be assumed that the problems of altitude preparation and lack of success cannot be treated in isolation, other factors certainly form part of the overall picture.

In this connection it should be mentioned that an analysis of the possible effects of environmental factors was carried out for each team, these team reports being incorporated into this overall review.



Temperature

Consideration of the temperature factor alone is of little value; it needs to be included within a group of environmental conditions.

This group also includes altitude, which has already been dealt with, and kick-off time.

There is general agreement that temperature is an influential factor, and that extreme heat can reduce performance. However, it should not be forgotten that unaccustomed low temperatures can have a similar effect on performance. It really all depends on the conditions that a team has been accustomed to.

The expectation of high temperatures should not be as important a reason for not assigning World Youth Championships to such countries or continents as these high figures would suggest.

The World Cup report of 1982 shows that of the group in Vigo and La Coruña, Italy and Poland were favoured by the low temperatures, while Cameroon, more accustomed to tropical levels, was at a disadvantage. The fact must be accepted that since football is played world-wide no set of conditions will be equally favourable for all teams.

In this report our sport cannot be compared with ice hockey, basketball or handball.

All that can be expected is a certain degree of correction and moderation of the influence of temperature by choosing kick-off times at which reasonable temperatures may be expected.

Statistical temperature data for the different venues can only be considered as approximations, forming part of a general picture. For the coach only the actual temperature at kick-off is of practical value.

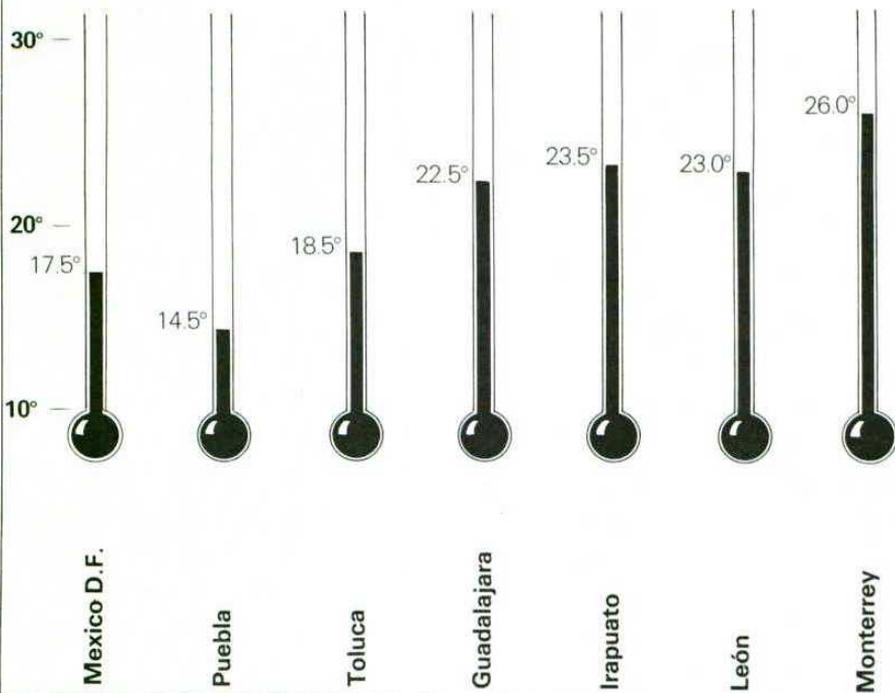
Since the large majority of teams came from various regions of the northern hemisphere, where the June temperatures have already reached summer levels or higher, the only real problem in this connection would seem to be the kick-off time.

Experience clearly shows that at high altitudes even average temperatures can bring additional stresses.

This altitude and temperature combination can have a great effect on players' water balance and hence weight losses can be enormous. Because of this, players need very careful medical observation and attention.



Average temperature at venues



After every strenuous effort, whether a game or training, the liquid and mineral levels should be restored to their normal equilibrium states.

According to many attendants, insufficient attention was paid to the danger of possible dehydration during the World Youth Championship, the simple

remedy of players' taking liquid during a game from containers which could have been placed around the field being forbidden by the regulations.

It remains open, subject to further inquiry, whether the Medical Committee will be able to take account of these criticisms in future regulations, particularly for World Youth Championships.

Humidity

After altitude and temperature, humidity is the third environmental factor whose effects need to be considered.

In this connection, a statement from the Nigerian team is significant:

When asked about climatic influences they expressed satisfaction, even though the humidity in Monterrey was over 90%. In Lagos, the home of most of the players, such conditions are quite normal.

Similar statements could certainly be obtained from other participating teams in whose countries such humidity levels prevail.

Another look at the 1982 World Cup and the Vigo / La Coruña group shows the importance of the humidity factor.

Cameroon, as previously mentioned, had to contend with (for them) low temperatures in Spain, but the humidity was high, as in their homeland.

Such changes can also have varying effects on a player's physical ability.

In Monterrey both humidity and temperature were high, causing differing levels of strain on the players.

These circumstances certainly contributed to the inadequate performance of the Russian team in Monterrey.