



Ariel Dynamics Inc. Media Library - Video

ESPN Show 4



Code	adi-vid-01066
Title	ESPN Show 4
Subtitle	With Frank Shorter
Description	...
Subject	Performance Analysis
Duration	00:05:33
URL	https://arielweb.com/videos/play/adi-vid-01066
Date	2003-11-08 11:26:35
Label	Approved
Privacy	Public

Future Sports: Athlete Training and Scientific Development

On Future Sports, we explore the journey of athletes across various sports. We delve into the story of a man who won the Munich marathon a decade ago, bringing significant media attention to the sport. His success was attributed to being at the right place at the right time, and the luck involved in his training being perfectly aligned with the scientific development of the sport at the time.

The United States has been lagging in the application of scientific research in sports. While we conduct extensive research, other countries often utilize our data to enhance their athletes' performance. However, this trend is changing, and we are now applying this research domestically.

The guest's advantage in running is not strength, but form and biomechanics. As athletes reach a certain level of training, they need to improve their form, which is challenging to visualize and reproduce. This is becoming more common among runners.

In 1976, sports scientists like Gideon Ariel were behind the scenes. Now, they are at the forefront. Athletes like Sebastian Coles are becoming models for others to imitate. Scientists can now study his form, measure the friction coefficient of his foot when he lands, and even determine the type of shoes that would enhance his performance.

The combination of studying superior athletes and generalizing their techniques can lead to the development of weight programs and shoe development programs to help athletes run faster.

The guest discusses his recovery from an injury and the psychological impact of knowing he has fully recovered. He also talks about the use of high-speed photography and computer programming to analyze and compare his running style before and after the injury.


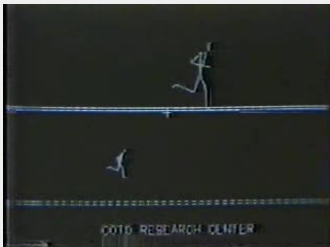
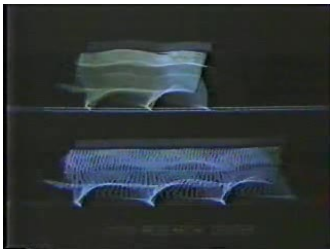


The guest emphasizes the importance of not bouncing the upper body while running. He also highlights the significance of biomechanics and physiological testing in an athlete's training. He believes that the United States, despite having the best technology in the world, needs to better utilize it to enhance the performance of athletes.

Model Id: gpt-4-0613
Created on: 2023-09-19 01:30:22
Processing time: 00:00:28.2400000
Total tokens: 1566

Audio transcription

Frame	#	Time	Spoken text
	0.	00:00:00	On Future Sports, we'll take a look at athletes representing the complete spectrum of sports.
	1.	00:00:30	As a man who won the streets of Munich ten years ago, attracted major media attention to the marathon.
	2.	00:00:40	You may recall that the first runner in the Olympic stadium that day was a face.
	3.	00:00:46	Well, I think I was at the right place at the right time.

Frame	#	Time	Spoken text
	4.	00:00:50	<i>And again, there's a luck element involved in everything that you do,</i>
	5.	00:00:55	<i>and I was lucky that the training I had done was right.</i>
	6.	00:00:58	<i>And I think I was also, again, fortunate that I came along at a time in the scientific development of the sport that my type of training was all I needed to do.</i>
	7.	00:01:09	<i>There's all that luck involved because the Americans have been very behind in the sophistication of the scientific research on sport.</i>
	8.	00:01:17	<i>We do lots of scientific research, but then the other countries use our data, and then they transfer it to the athletes.</i>
	9.	00:01:22	<i>Now we're finally doing it here.</i>
	10.	00:01:24	<i>And I may have been one of the first that people started to look at because my advantage in running is not strength.</i>
	11.	00:01:31	<i>It is form in biomechanics.</i>
	12.	00:01:34	<i>And as you reach a certain level of training, I think you get to a point of diminishing return in terms of just the physical effort that you put out.</i>
	13.	00:01:42	<i>And then you have to get to the point where you can improve your form, and it's a very difficult thing to do.</i>
	14.	00:01:48	<i>You can't visualize it in your own mind and reproduce it. You have to be able to see it.</i>
	15.	00:01:53	<i>And I think you're starting to see this in a lot of runners now.</i>
	16.	00:01:57	<i>True, in 1976, there weren't people like Gideon Ariel on the scene.</i>
	17.	00:02:03	<i>They were behind the scenes. Now I think they really are in the forefront.</i>
	18.	00:02:07	<i>Frank, always in scientific pursuits, there seems to be some model, like Sebastian Coles.</i>
	19.	00:02:12	<i>He's going to become a model now, and people are going to try to imitate this guy.</i>
	20.	00:02:16	<i>I think what they'll do is they'll study his form to see just what makes him so efficient.</i>
	21.	00:02:21	<i>And they do amazing things now, like they can put him on a treadmill and measure the friction coefficient of his foot when he lands.</i>
	22.	00:02:28	<i>And they can see even what kind of shoes he should wear. Some shoes will give him a better friction coefficient than others.</i>
	23.	00:02:35	<i>So they can not only see what makes him good, what allows him to flow along as he runs.</i>
	24.	00:02:41	<i>They can see and study just exactly what he might have done in the way of weight work or training to improve that form.</i>
	25.	00:02:48	<i>So it's going to be a combination of sort of taking the fine points, the good points of the superior athlete,</i>
	26.	00:02:55	<i>and then trying to generalize enough so that you can develop weight programs, even shoe development programs, to get the athlete to run faster.</i>
	27.	00:03:05	<i>The great thing about getting and having the information on me from 1972 is now I think I'm totally rehabilitated.</i>
	28.	00:03:12	<i>I think my strength is back where it should be. It would be very interesting to be tested again to compare just to see how close I can be to the same efficiency that I had before I was injured.</i>
	29.	00:03:23	<i>And that's a great tool to have, because otherwise you never know, and there's always the uncertainty, and that's when the psychological element comes in.</i>
	30.	00:03:31	<i>It now gives me a means to psychologically know that I am recovered and back to the point where I was before.</i>

Frame	#	Time	Spoken text
	31.	00:03:36	<i>I hope, hope has arrived. Frank, after your muscle pull, you did have a tendency to favor your stronger leg.</i>
	32.	00:03:42	<i>But with the technique of filming your running style of high speed photography and programming it into our computer through a sophisticated tracing process called digitizing,</i>
	33.	00:03:50	<i>we're able to illustrate your running style, the one that you used in 72 to win a marathon gold medal.</i>
	34.	00:03:55	<i>Now we can compare that technique with your present form.</i>
	35.	00:03:58	<i>You know, getting on the top line, you see him in 1972, right? He looked pretty smooth to me.</i>
	36.	00:04:03	<i>In 1982, when you recovered from the injury, you're really approaching the same style.</i>
	37.	00:04:08	<i>Now, when he was injured, the central quality was a little bit different.</i>
	38.	00:04:13	<i>If we look on it from a multiple trace point of view, you'll see that the trace is a little bit different.</i>
	39.	00:04:19	<i>On the top, you seem a little bouncing. That's when he just recovered from the injury and he's going up and down.</i>
	40.	00:04:26	<i>But when you look on 1982, it's almost completely straight.</i>
	41.	00:04:30	<i>Yeah, completely straight. That's a great runner, Frank Shorter.</i>
	42.	00:04:33	<i>You're saying, get in, keep that head from bouncing up and down and you'll be a faster runner.</i>
	43.	00:04:37	<i>Yes, in fact, the look on his upper body is as important as the lower body, and you don't want to bounce with it.</i>
	44.	00:04:44	<i>If we're going to use instruments, if we're going to make measurements, then why not use the finest instrument?</i>
	45.	00:04:50	<i>Right. And the other is the psychological feedback.</i>
	46.	00:04:54	<i>Every athlete, I think, once they get to the highest level, every athlete has to feel that he or she has done absolutely everything they can to prepare.</i>
	47.	00:05:01	<i>And now the biomechanics and the other physiological testing are just an element in that training.</i>
	48.	00:05:07	<i>It's just necessary for your own sense of confidence to do that now.</i>
	49.	00:05:10	<i>In this country, we have the best technology in the world. We put a person on the moon.</i>
	50.	00:05:15	<i>But we don't use this technology to people like Frank. If we would use that, he would be on his own moon,</i>
	51.	00:05:21	<i>which was the winning gold medal.</i>
	52.	00:05:24	<i>Yeah, the interesting things. You've got to use Germany and you see all the applications they're doing to their athletes and all the literatures in English.</i>

This PDF-document has been auto-generated from a video file by arielweb-ai-bot v1.2.2023.0926 on 2023-09-28 03:46:14 without human intervention. In case of errors or omissions please contact our aibot directly at ai@macroport.com.

Video filename: **adi-vid-01066-espn-show-4-256kbps.mp4**

Copyright Disclaimer

The content and materials provided in this document are protected by copyright laws. All rights are reserved by Ariel Dynamics Inc. Users are prohibited from copying, reproducing, distributing, or modifying any part of this content without prior written permission from Ariel Dynamics Inc. Unauthorized use or reproduction of any materials may result in legal action.

Disclaimer of Liability

While every effort has been made to ensure the accuracy of the information presented on this website/document, Ariel Dynamics Inc. makes no warranties or representations regarding the completeness, accuracy, or suitability of the information. The content is provided "as is" and without warranty of any kind, either expressed or implied. Ariel Dynamics Inc. shall not be liable for any errors or omissions in the content or for any actions taken in reliance thereon. Ariel Dynamics Inc. disclaims all responsibility for any loss, injury, claim, liability, or damage of any kind resulting from, arising out of, or in any way related to the use or reliance on the content provided herein.