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Today Show



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Title	Today Show
Subtitle	Olympic Training Center
Description	Establishment of the United States Olympic Training Center in Colorado Springs.
Subject	Performance Analysis
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Synopsis

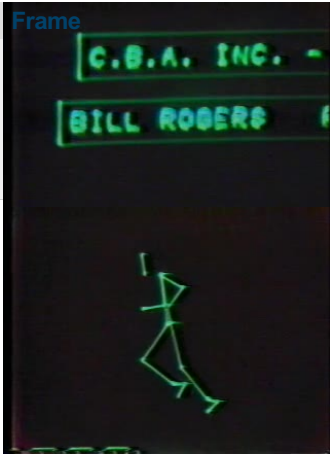






On June 4th, the United States Olympic Committee announced the addition of a new team member - a computer. The computer, contributed by Data General, will be used to analyze and improve the performances of American Olympic contenders. Colonel Don Miller, Executive Director of the Olympic Committee, and Dr. Gideon Ariel, a sports scientist and former Israeli Olympic athlete, discussed the system. The computer system will analyze athletes' performances, identifying what they're doing right and wrong. The system is expected to give the U.S. an edge over other countries, such as East Germany, who are also using similar systems but lack the sophistication of the U.S. system. Dr. Ariel demonstrated the system using footage of marathon champion Bill Rogers and the host running in Central Park. The system analyzes body segments, displacement, velocity, acceleration, and forces to optimize performance. The system will be available to all American athletes at the training centers in Squaw Valley and Colorado Springs.

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Audio transcription

Frame	#	Time	Spoken text
	0.	00:00:00	Good morning, Indianapolis, Indiana. This is today, Monday, June the 4th. And now coming
	1.	00:00:13	up in just a few moments, we'll also have a report on the latest member of the Olympic
	2.	00:00:16	team, a computer that analyzes the performances of great athletes. And then some not so great
	3.	00:00:22	athletes. You'll see what I mean in a few moments.
	4.	00:00:30	Fifteen and a half before the hour now, the United States Olympic team is about to take
	5.	00:00:34	a long jump into the computer age. It's getting a new team member and it's a computer. The
	6.	00:00:39	United States Olympic Committee is announcing today that it's going to use a computer contributed
	7.	00:00:44	by a company called Data General to improve the performances of every American Olympic
	8.	00:00:49	contender. With us this morning is Colonel Don Miller, he's Executive Director of the
	9.	00:00:54	Olympic Committee, and Dr. Gideon Ariel, he's a sports scientist, a former Israeli
	10.	00:00:58	Olympic athlete who has developed a system that we're about to show you. Let's begin
	11.	00:01:02	with you, Colonel Miller. How much could a computer do for an athlete?

Frame	#	Time	Spoken text
	12.	00:01:06	<i>Very much, Tom. I think it's a tremendous benefit to assist our athletes in perfecting</i>
	13.	00:01:13	<i>their skills technique. Athletes in other parts of the world are already using the system</i>
	14.	00:01:18	<i>to analyze what they're doing right and what they're doing wrong, I gather.</i>
	15.	00:01:21	<i>Yes, such as the East Germans are using the system. However, they do not have the sophistication</i>
	16.	00:01:28	<i>in their computer systems that we have in ours. They cannot manipulate the maximum data</i>
	17.	00:01:34	<i>that we can. Therefore, we are very confident that we will be much further ahead than the</i>
	18.	00:01:41	<i>East German and some of the other countries using the computer system in the very near</i>
	19.	00:01:46	<i>future if we are not already ahead of them.</i>
	20.	00:01:48	<i>All right, Dr. Gideon Ariel is the man who developed the system. He's going to tell us</i>
	21.	00:01:51	<i>about it this morning. First of all, you want to change the analysis from eyeball to hard</i>
	22.	00:01:55	<i>scientific judgment I gather. That's why you went ahead and did this.</i>
	23.	00:01:58	<i>Well, the human eye actually cannot see a performance because what performance is all</i>
	24.	00:02:04	<i>about is the manipulation of forces in the body and you cannot see forces. You can see</i>
	25.	00:02:08	<i>movement. The computer can give us the data to see forces and to be able to optimize performance.</i>
	26.	00:02:16	<i>But we're going to show you now some performances. One spectacular and one will you make your</i>
	27.	00:02:20	<i>own judgment because the other day, marathon champion Bill Rogers, the premier runner in</i>
	28.	00:02:24	<i>the world, he and I went out to run in Central Park and Dr. Ariel came along to film us.</i>
	29.	00:02:29	<i>It was really a very simple and quick process. As you can see, I arranged to run first so</i>
	30.	00:02:34	<i>I could always finish ahead of Rogers as Dr. Ariel filmed this using an ordinary 16 millimeter</i>
	31.	00:02:39	<i>camera. He shot it in slow motion. We ran at various speeds and then Dr. Ariel took</i>
	32.	00:02:46	<i>the film back, processed it and what did you do with it after that?</i>
	33.	00:02:49	<i>Well, we fed or scanned actually your body segments into the computer and the computer</i>
	34.	00:02:55	<i>can calculate displacement, velocity, acceleration and from that calculate forces and actually</i>
	35.	00:03:00	<i>to be able to compare you to Bill Rogers or to the horse that we also took.</i>
	36.	00:03:05	<i>Alright, let's show some of that film now and some of the system that you used on the</i>
	37.	00:03:08	<i>computer so we can show just what Dr. Ariel is talking about, changing from just an eyeball</i>
	38.	00:03:13	<i>analysis of it, to putting it on the computer that you can see in front. Is that me running?</i>
	39.	00:03:19	<i>This is you running actually in the marathon place. Lost off, wait.</i>
	40.	00:03:26	<i>And basically you see that you're landing on the hill, which is deficiency because most</i>
	41.	00:03:31	<i>of the forces transmitted to your body and people are running like that 10, 15 miles,</i>
	42.	00:03:37	<i>obviously you're going to have some problems. So the style of running is very, very important.</i>
	43.	00:03:41	<i>It was a composite picture of your leg motion.</i>
	44.	00:03:45	<i>Now, what am I, we're talking about the center of gravity there just for a moment,</i>
	45.	00:03:48	<i>have I be back to the center of gravity?</i>
	46.	00:03:50	<i>Well, what we found out that you have a lot of waveform, your central gravity going up</i>
	47.	00:03:55	<i>and down where when we compare it to Bill Rogers that you see right now on the screen,</i>

Frame	#	Time	Spoken text
	48.	00:03:59	he's leaning forward a lot more. Not only he's leaning forward, but the central gravity
	49.	00:04:02	does not displace up and down. This is a critical factor in running.
	50.	00:04:06	And he lands more on the ball of his foot.
	51.	00:04:08	The best runners are landing on the ball of the foot. It's enabling them to be more efficient
	52.	00:04:13	and absorb some of the shock. I see.
	53.	00:04:17	Bill Rogers, who is the premier Olympic, or premier marathon runner in the world, and
	54.	00:04:22	he's our greatest hope, of course, for gold in the Olympics in 1980.
	55.	00:04:27	Now, can you do this not just with runners, but with distance or with weights, men and
	56.	00:04:34	with broad jumpers and pole vaulters as well, long jumpers?
	57.	00:04:36	In fact, the system is much more efficient when you're doing it with power events,
	58.	00:04:41	such as throwing events, like in a discus or in the shot, and we have a lot of success in there.
	59.	00:04:45	But aren't you afraid of tampering with a style of someone like Bill Rogers,
	60.	00:04:48	who's at the peak of his form and winning everything that he's involved in these days anyway?
	61.	00:04:52	No, because we basically found already some problem with his running
	62.	00:04:57	where we can help him even to be better. Also, the uniqueness about our technique,
	63.	00:05:02	that it's not invasive. In other words, we don't touch the outlet, we don't manipulate that,
	64.	00:05:07	we don't utilize external means. You just suggest things that he ought to be doing, or she ought to be doing.
	65.	00:05:13	That's correct. One of the things that you learn is that women often can shorten their stride
	66.	00:05:17	and become more efficient. Yes, in fact, for a long time, people say,
	67.	00:05:20	open you stride for a more efficient run. We found out that that's not necessarily true,
	68.	00:05:24	because you have to land with a center of mass of your body just above the feet.
	69.	00:05:28	So if you open your stride, you have a force that is the turn to the progression forward.
	70.	00:05:33	And will everyone have access to this Colonel Miller so that all American athletes will have the same crack at it?
	71.	00:05:37	Yes, they will. We have located the capability in both of our training centers in Squaw Valley
	72.	00:05:44	and also in Colorado Springs. Our computer center will be located in Colorado Springs
	73.	00:05:51	under Gideon's supervision, and all athletes will be given an opportunity
	74.	00:05:57	to optimize their skills, techniques through the biomechanics system.
	75.	00:06:03	Colonel Miller, Dr. Gideon, thank you very much. May point out that my old high school track coach
	76.	00:06:08	Richie Greeno would have told you that it wasn't necessary to film me in slow motion.
	77.	00:06:11	You could have filmed me at 9 normal speed and it would have been slow motion.
	78.	00:06:14	Ten minutes before the hour now, we'll be back.
	79.	00:06:15	Jane Pauley from Indianapolis, the first this message.

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