



# Ariel Dynamics Inc. Media Library - Video

## Computers



<b>Code</b>	adi-vid-01055
<b>Title</b>	Computers
<b>Subtitle</b>	Computers are People Too
<b>Description</b>	...
<b>Subject</b>	Performance Analysis
<b>Duration</b>	00:08:53
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<b>Date</b>	2003-10-21 19:07:20
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<b>Privacy</b>	Public





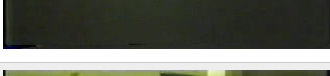



## Synopsis

Elaine Joyce, an actress, singer, dancer, and entertainer, expresses her fear of being replaced by computers. However, she is reassured that computers are tools that can enhance human intelligence and creativity, not replace them. This is demonstrated through the work of Gideon Ariel, who uses computers to study human movement. Ariel applies his theories to a study of two dancers, Rebecca Beale and Donald Byrd, who are given a computer critique of their performance. The computer identifies flaws and suggests improvements, but it is clear that the computer is a tool, not a replacement for the dancers. The computer needs the creativity and heart of the dancers to create art.

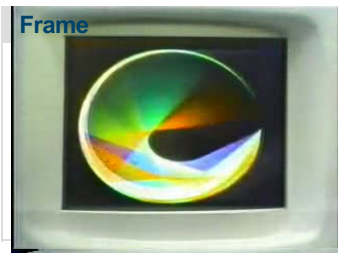
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Created on: 2023-09-19 01:14:58  
Processing time: 00:00:09.2440000  
Total tokens: 1478

## Audio transcription

Frame	#	Time	Spoken text
	0.	<b>00:00:00</b>	<i>Computers, they're everywhere. There's no escaping them no matter who you are. Look at me, Elaine Joyce, actress, singer, dancer, and entertainer.</i>
	1.	<b>00:00:20</b>	<i>I've worked all my life to hold this spot right here, center stage. Just when everything's starting to click,</i>
	2.	<b>00:00:28</b>	<i>am I about to be replaced along with every other musician and artist by these machines, these computers?</i>
	3.	<b>00:00:35</b>	<i>Elaine, you must remember computers are people too.</i>
	4.	<b>00:00:58</b>	<i>Computers are people too, is brought to you in part by Atari, a family of home computers and video games that challenge you to discover how far you can go.</i>
	5.	<b>00:01:17</b>	<i>We're an extension of a person's intelligence. We teach when used by teachers. We're autistic when used by artists. If you're an entertainer, so are we.</i>
	6.	<b>00:01:27</b>	<i>Not so. We are on the verge of a beautiful partnership. When artists like you learn to use us, I am amazed even myself.</i>
	7.	<b>00:01:38</b>	<i>We can elevate dancers and athletes to new heights. We are the artists whose work can outshine paint and canvas.</i>
	8.	<b>00:01:47</b>	<i>But you're not everything I need. You're rooted to your wall socket, big boy. I love to dance.</i>
	9.	<b>00:02:00</b>	<i>The angle of your preparation is off by 90 degrees an hour. Start your pirouette here, and be effectively more spectacular.</i>
	10.	<b>00:02:23</b>	<i>Even computers can appreciate the beauty of human movement. While some of us make music from things non-musical, others see what is usually unseeable.</i>
	11.	<b>00:02:32</b>	<i>Gideon Ariel uses us to study the movements of athletes because we see things his eyes can't.</i>

Frame	#	Time	Spoken text
	12.	00:02:39	<i>Based on his research, he has developed theories about human movement.</i>
	13.	00:02:53	<i>The human movement can be divided into a wide spectrum of activities. On one side, you can take the explosive events, such as sprinting, throwing a shot, throwing a javelin.</i>
	14.	00:03:11	<i>You have to produce something really quick, fast and efficient. On the other end of the spectrum, you have the aesthetic events, like the dance.</i>
	15.	00:03:21	<i>You don't try to jump the highest or jump the farthest, but you want to try to create an illusion of a very aesthetic movement.</i>
	16.	00:03:30	<i>This is the two borders of the spectrum of movement. In the middle, you have other movements, such as swimming. Swimming is an endurance type of activity, but it's a continuous activity. It's not explosive, but it's not necessarily an aesthetic.</i>
	17.	00:03:44	<i>On the other end, you have, for example, team games, like a basketball. In a basketball, you need the explosiveness, jumping and rebounding, or jump shot.</i>
	18.	00:03:54	<i>If you take diving, for example, now you start getting more toward the aesthetic. You have to be somewhat explosive when you push against the spring.</i>
	19.	00:04:03	<i>But in the air, you are the dancer. You try to create a motion of clothes. If you take, for example, a figure state.</i>
	20.	00:04:11	<i>Again, you're almost where diving is. You're getting closer to the dancing.</i>
	21.	00:04:15	<i>The interesting thing that all these activities that I mentioned, whether it's a boxing or ice skating, or whether it's dancing or figure skating, the principle of gravity is exactly the same.</i>
	22.	00:04:41	<i>For the first time, Ariel applies his theories to a study of two dancers.</i>
	23.	00:04:59	<i>Rebecca Beale and Donald Byrd, instructors at the California Institute of the Arts, are given a computer critique.</i>
	24.	00:05:07	<i>So it would be interesting to know this part when he shifts the air.</i>
	25.	00:05:14	<i>So from here, on the floor now, and here, I keep going. There.</i>
	26.	00:05:23	<i>Christine Lawson, Dean of the CalArts School of Dance, observes.</i>
	27.	00:05:27	<i>So why don't we digitize it?</i>
	28.	00:05:31	<i>And we've got his foot and ankle. And every time I touch it, information going right to the computer is stored there.</i>
	29.	00:05:38	<i>So later on, I will be able to reconstruct the picture.</i>
	30.	00:05:41	<i>I see. So when we see it on the computer, we'll see frame by frame.</i>
	31.	00:05:44	<i>That's correct.</i>
	32.	00:05:45	<i>Frame by frame, and then we can construct the whole movement.</i>
	33.	00:05:48	<i>And later on, if you want to tell Donald what to do, he even doesn't have to be here.</i>
	34.	00:05:52	<i>We'll talk to the computer and make him do whatever he wanted to do.</i>
	35.	00:05:55	<i>The group sits as an audience to see the output.</i>
	36.	00:05:59	<i>Here we see both the Becca and Donald going through the dancing.</i>
	37.	00:06:09	<i>Great motion.</i>
	38.	00:06:10	<i>Each dancer's center of gravity is calculated and identified by a small dump.</i>
	39.	00:06:18	<i>If you could do that, then it would be a super dance.</i>
	40.	00:06:24	<i>You can see the center of gravity, the front of her, and then it's still in the front.</i>
	41.	00:06:31	<i>And then it's right in the middle of the body.</i>
	42.	00:06:34	<i>The computer indicates a flaw in Rebecca's take-off.</i>
	43.	00:06:37	<i>And Ariel tells her how she might correct it.</i>
	44.	00:06:40	<i>Right away we see she's not stopping with the leg. She's keep going.</i>
	45.	00:06:44	<i>If she would stop that and block me now, it would lift her up.</i>
	46.	00:06:48	<i>Yes.</i>

Frame	#	Time	Spoken text
	47.	00:06:49	<i>The foot there, you can see.</i>
	48.	00:06:51	<i>A study of the dancer's center of gravity reveals an illusion.</i>
	49.	00:06:55	<i>It's a hike to the jump. It's not when he's completely stretched.</i>
	50.	00:06:59	<i>He's able to jump higher as he's beginning to come down, technically.</i>
	51.	00:07:03	<i>Okay, let me see if that's really what happened.</i>
	52.	00:07:06	<i>Obviously after he left the ground, he did something with his body segments that we would like to find out.</i>
	53.	00:07:12	<i>What is it that creates this kind of illusion?</i>
	54.	00:07:15	<i>Okay, he's going to pick high, start extending his arms.</i>
	55.	00:07:20	<i>The legs start going up.</i>
	56.	00:07:23	<i>Now I'll put it on a multiple frame and it will continue to do it.</i>
	57.	00:07:28	<i>I see.</i>
	58.	00:07:31	<i>Oh wow.</i>
	59.	00:07:33	<i>He'll start going down by the illusion.</i>
	60.	00:07:35	<i>He starts going up and he directs your focus up while he's going down.</i>
	61.	00:07:39	<i>Probably that's the illusion that you stay up in there.</i>
	62.	00:07:43	<i>They end with an electronic ballet.</i>
	63.	00:07:46	<i>I want it a little bit slower, so I'll see it in slow motion.</i>
	64.	00:07:50	<i>Oh yeah.</i>
	65.	00:07:52	<i>And then you can put five guns or six guns and see the relationship of the group for each other.</i>
	66.	00:07:57	<i>Well for group choreography, this would work perfectly.</i>
	67.	00:08:00	<i>Ariel pronounces himself downright pleased with the experiment.</i>
	68.	00:08:05	<i>Maybe I should change my profession.</i>
	69.	00:08:08	<i>No, I should change mine.</i>
	70.	00:08:13	<i>Has art been reduced to diagrams and numbers?</i>
	71.	00:08:17	<i>All those years of sweating.</i>
	72.	00:08:21	<i>Straining.</i>
	73.	00:08:23	<i>Dream.</i>
	74.	00:08:25	<i>Shroom to the size of a microchip.</i>
	75.	00:08:28	<i>Wait.</i>
	76.	00:08:29	<i>You've missed the most important point.</i>
	77.	00:08:31	<i>We're powerless without you.</i>
	78.	00:08:38	<i>Tom.</i>
	79.	00:08:43	<i>Don't you understand?</i>
	80.	00:08:46	<i>We computers could never replace you.</i>
	81.	00:08:48	<i>We are your collaborators.</i>



#	Time	Spoken text
82.	00:08:50	<i>We need your heart, your creativity.</i>

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