# Playing

## Sports involve dynamic motion and strategy. That boils downto engineering and mathematics, two enasin which computers always win.


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The article discusses the increasing role of computers in sports, from strategy development to performance analysis. It highlights how National Football League teams are using computers to analyze game variables and develop strategies. The article also mentions how computers are used to translate film images of athletes into mathematical formulas to improve their movements. Furthermore, it discusses how computers are used in managing sports information and statistics, and in broadcasting sports events. The article also predicts that individuals might soon use personal computers for sports training and analysis.



Below find a reprint of the 4 relevant pages of the article "Playing" in "Sky Delta Air Lines Magazine":



*Managing sports information and stats will be one of the computer's jobs at the upcoming Olympics; sports media representatives are pictured at a meet receiving "hands-on" experience prior to the Games.*

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As long as we keep the current definition of "sport" in our dictionaries, sports and athletics will always be human, first and last.

It's between that "first" and "last" that computers get into the act. And getting into it they are – in a big way.

Granted, the final determinant of a sporting contest may be something utterly uncomputable and human – like will, drive, determination. But sports involve dynamic motion and strategy. That boils down to engineering and mathematics, two arenas in which computers always win.

Take football, for instance. Bone-crunching tackles aside, any footba player or fan will tell you this is a menta sport, one of strategy and the meshing hundreds of variables at any momen That's a lot of information. That's wh most National Football League team have now brought their computers fro the front office (where they have bee used for bookkeeping since 1960) into th planning rooms. The Philadelphia Eagles Qantel Business Computers unit an Sports-Pac software helped put severa touchdowns on the scoreboard in th 1983 season. "We can identify forma tions, draw pictures, define pass patterns who caught the ball, yardage, what ever receiver was doing, and how the blockin was," says Chuck Clausen, the Eagles defensive line coach.

Moreover, computers can rub thos bits of data together and produce new flashes of insight – like the probability o a given player or team doing a particula thing in a given situation.

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*At the U.S. Olympic Committee Elite Athlete Training Program, the computerized biomechanic platform system measures how steadily the archer stands while shooting.*

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For example, when the San Diego Chargers were preparing to play the Kansas City Chiefs in 1980, the Chargers' computer pointed out that the Chiefs used one formation 70 percent of the time between the 20-yard line and the goal. Then the computer designed a special play just to take advantage of that formation's weakness. The New York Yankees, Oakland A's and Philadelphia Phillies all use strategy computers to similar advantage. The Chicago White Sox, who haven't won a title in 25 years, used their computer to capture a division title last year. Basketball, soccer, hockey and rugby teams have also caught on to computerized coaching.

Computers are doing a lot when i comes to less strategy-laden individua sports. Computers can translate film im ages of an athlete in motion into mathematical formulae, then apply en gineering principles to show the athlete a more efficient way to move.

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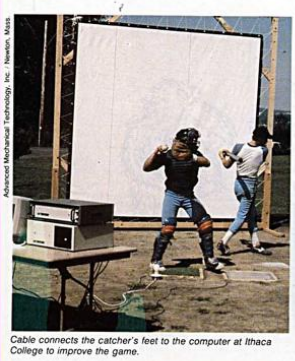
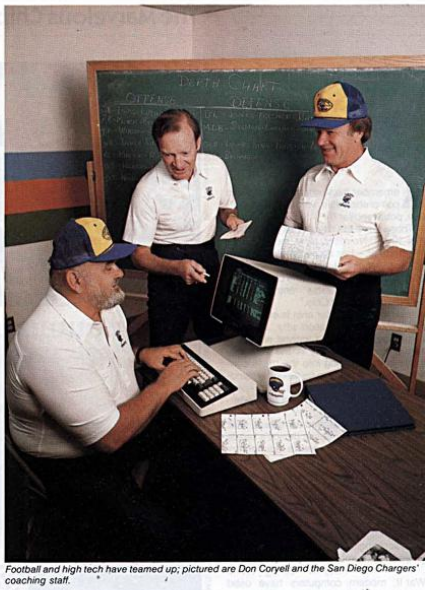



*Cable connects the catcher's feet to the computer at Ithaca College to improve the game.*


*Weekend athletes can develop a personal, flexible exercise program for training and/or rehabilitation with professional guidance on the Ariel 4000 series.*







*Football and high tech have teamed up; pictured are Don Coryell and the San Diego Chargers' coaching staff.*

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An experimental system using pressure sensors placed in track shoes, and a remote transmitter in a belt are helping race-walkers analyze and perfect their strides for the Summer Olympics. Its developers hope they will also be useful in teaching the handicapped to walk.

But as sports grow more complex, the main job of computers has become the management of sports information and statistics. No sports TV crew could function without computers now. Besides handling the logistics of up to 20 cameras and 150 technicians, computers retrieve the statistics and generate the graphics yo see on the screen.

The Los Angeles Olympics will use 1 room-sized computers attached to 1,80 remote terminals to keep schedules, rec ords and performances straight for th August games, which will sprawl over 6 sites in three counties.

And for you? You might find yourself o the golf course consulting your pocke sized computer and range finder for th right club. Or attending a tennis clini equipped with game and stroke analysi computers. Or sailing in a boat designe by a computer like the ones North Sta Sails Inc. used to cut more efficient sail for America's Cup racers – or the on used to design the *Australia II* that too the Cup away.