

Fork-in-Socketeers' ReChess
(Technical Report)

Technology Doping: Discourse Over the Use of Technological Innovations
in Competitive Athletics
(STS Research Paper)

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by

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Preface

Human performance is never attributable exclusively to the individual. Environments, metrics, policies, and equipment are important factors, and their significance may be matters of controversy. For example, policies or equipment intended to improve performance or promote inclusion may also permit inequities.

How may an over-the-board chess match be played without players using their hands to pick up pieces and make moves? The project team sought to develop a chess board that would permit players with physical disabilities to move chess pieces by novel means. In some existing systems, player can move physical pieces remotely, through digital devices. With a companion smartphone app, players can dictate moves that are replicated on a dedicated physical board. Others restrict automatic piece movement to an AI opponent; human players must move their pieces manually. The project team therefore attempted to develop a fully hands-free physical chess board. While time and budget constraints precluded success, the team developed a mechanical framework which could determine piece locations on the board and move them from square to square. To complete the project, future researchers may implement voice recognition and a means of translating spoken commands into mechanical instructions for piece movement.

Effective sports gear supports an athlete's performance, but some athletes contend that some gear can impart an unfair athletic advantage. Such arguments, however, are controversial. Sports gear companies and their clients reply that nearly all innovations in athletic gear begin as controversial departures from predominant practice, but soon are accepted as routine. Critics, however, reply that because some state-of-the-art gear is practically inaccessible to some athletes, its use entails inequities. Some add that

innovative gear can impart unfair advantages in other ways. The sports associations that govern athletics competitions strive to keep the line between fair and unfair gear clear, but the pace of innovation has complicated their task.