

On Prediction Machines & Clinical Medicine: Case Studies from a Black Cyberneticist and Mathematician

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The concept of Cybernetics involves the ability to methodically steer the state of a system towards a desirable end goal, typically with the influence of feedback, as described in seminal work by the late great Norbert Wiener and Ross Ashby. Where the feedback element within the system loop serves as the system intelligence within the loop and is typically underpinned by a mathematical algorithm of sort, which is capable of computing a correction factor to re-align a system on the notion of a perceived error signal. With the rise of Prediction Machines in the area of Artificial Intelligence, these data driven machines have now found steady applications within Cybernetic loops as part of the feedback element of which enhances the degree of the overall system intelligence. These form of Cybernetic systems are being applied within areas of clinical medicine where they form a unique Cyber-Human/Human-Machine system which have been seen to carry a good appeal towards enhancing care strategies and aiding clinical care decisions. This talk will explore various case studies of which Cyber-Human and Prediction Machines have been applied towards various aspects of clinical medicine of which include; Bionics & Rehabilitation, Pregnancy Medicine, Early Cancer Diagnosis and Psychiatry to name a few.