MACHINE INTELLIGENCE 2

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PREFACE

The readers of this book will very probably be familiar with its predecessor, *Machine Intelligence, I,* published under the same imprint and edited by N. L. Collins and Donald Michie, and so they will be aware of the fascination and familiar with the wide extent of the field of enquiry being investigated here, difficult as it may be to define it precisely.

The objectives vary exceedingly. We may start with: how to make a machine which can do what we could do (so that we will be free to do something else); how to make a machine which can do what we could do if we were more accurate and patient (so that we can eliminate human error); how to make a machine which can do what we could do, but do it more quickly (os that we can learn the answer to the problem before the problem changes).

From this we advance to: how to make the machine (and ourselves) more efficient on the average by defining sub-goals, by using sub-optimal search procedures, by throwing away information totally, partially, or temporarily, for the sake of getting something done within an acceptable time.

Next we have: how can we assist the machine to recognise limited successes; how can we use the machine's current experience to suggest more appropriate sub-goals; how in fact can we and the machine best act together?

We are now confronted with the questions: how can we converse with the machine during the period of operation; what is a suitable language for such a conversation; what can the machine best do, what can we best do, and how should our respective rôles be determined?

Thus a study of 'machine intelligence' leads after yet one more remove to the ancient imperative, 'Know thyself', and the universal problem of co-existence.

1967 DAVID KENDALL