

Of all the fields of modern technology, robotics is likely to be one of the most influential in changing the very nature of our society.

In the past, the term “robot” has tended to conjure up pictures of automaton-like machines, often seen as a threat to people themselves. The concept of the robot goes back many decades, but – with the introduction of modern microelectronics – the whole field of robotics has been given a new impetus and exciting prospects. We can achieve almost automatic manufacture of a whole range of goods and products. Moreover, these can be made by robots with consistency of quality, both in mass production and in smaller batches. The manufacturing operations which can be automated are not only those of assembly but also of joining.

In transforming manufacturing industry, robots are always in danger of being seen as threats to traditional patterns of employment. In fact, of course, they enrich our manufacturing capability to the point where sophisticated products can be made more reliably and more cheaply. This means, in turn, that quality products are more widely available.

At the same time, robots will open up new possibilities in other fields. We shall be able to undertake difficult operations in hazardous environments. It is now possible to automate repetitive operations in many different fields: in medicine, in the sorting of letters, in food processing, as well as many others.

The setting up of a new journal to encourage writing and dissemination of ideas in robotics is to be strongly welcomed. The field of robotics will have an impact not only on manufacturing but on almost all other fields of human endeavour. Robotics will offer exciting solutions to some of the most challenging problems of modern society. “Robotica” has dedicated itself to this, and I wish the journal every success in the exciting years ahead.

Sir Henry Chilver FEng FRS
Vice-Chancellor
Cranfield Institute of Technology (U.K.)

“Robotica” has a nice ring to it. Exotica comes to mind! And, my wish for this new journal is that its distinguished Editorial Board would bless the manuscripts accepted with the criterion of having been exotic.

Most journals are born after all of the heavy thinking is over. Contributors agonize over their legacy or make tedious and obscure observations on minutiae. But, the “heavy thinking” is not over for robotics. There is still much room for profound discovery and even startling invention. Moreover, journals already abound to deal with the prosaic in robot execution and application. Let Robotica titillate the fancy of the aficionados!

Editor J. Rose has given this International Journal of Robotics a very broad charter, indeed. There is no barrier to any class of contribution. And that is just as well since robotics is so very multi-disciplinary.

It is this observer’s wont occasionally to lecture on the subject of robotics. So often students will ask, “What courses of study do you recommend as preparation for a career in robotics?” In response I created a slide that extensively listed disciplines that must be brought to bear.

Hence forward when I flash that slide and say "Any or all of these", may there also be justification for adding the admonition, you'd best also read "Robotica".

J.F. Engelberger
President
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For much of British industry, ability to compete in world markets depends heavily on moving upmarket, out of the reach of the low-cost producers of standard goods in the developing countries. That means high added value and technically sophisticated products of superior design and performance. Even more crucially, it demands the installation of the latest production technology throughout industry.

My Department is helping to stimulate the wider and more rapid introduction of new products and processes and we are placing special emphasis in key areas such as robotics.

The Robotics Scheme is designed to increase the use and manufacture of industrial robots by British industry and until 31 May 1983 the maximum grant available towards projects in this field has been raised from 25% to 33 $\frac{1}{3}$ %. Throughout last year there was a steadily increasing number of enquires and applications through the robot support programme and the 1,000th robot in UK industry was installed last summer.

Support under my Department's scheme is selective, and we are now directing help towards breaking new ground in the application of robotics in industry rather than towards funding projects where the benefit of robots is already established.

Last June I launched the Flexible Manufacturing Systems Scheme which operates in conjunction with the Robot Support Scheme. This provides £35 million of new money for consultancies, development work and the necessary capital investment for installation of flexible manufacturing systems for computer-controlled batch production. There is considerable interest in automated small batch production in the UK at present but we need more actual installations. I am very encouraged by the number of applications received under the FMS scheme so far.

The Government have demonstrated their commitment to increase automation; it is up to industry now to match that commitment.

I look forward to seeing Robotica established as an international journal of some authority in its field and I am hopeful that it will prove to be a useful ally in the drive to persuade British industry to adopt up to the minute production technology.

The Hon. Kenneth Baker M.P.
Minister of State for Industry and
Information Technology (U.K.)

Je suis heureux de saluer la naissance d'une importante revue en Robotique et je souhaite dire brièvement ce que j'espère y trouver.

Etant d'abord certain d'y trouver la présentation par les scientifiques des nouvelles recherches et des nouvelles applications de la Robotique, je ne dirais rien de plus sur cet aspect.

Comme ces applications deviennent de plus en plus nombreuses, on se pose de plus en plus de questions socio-économiques.

Le robot pose des questions sociales. Celles-ci sont assez bien connues parce que les travailleurs des grandes entreprises automatisées ont déjà eu, et ont tous

les jours l'occasion de s'exprimer. Ce qu'ils disent est clair et simple: les travailleurs souhaitent que les robots soient appliqués en priorité aux tâches insalubres, difficiles ou monotones. Ils demandent aussi qu'on leur donne une formation technique qui leur permette de participer activement à cette nouvelle technologie. Ils demandent enfin que le robot soit une occasion d'améliorer leur sort économique – par exemple, pour diminuer leur temps de travail – Ils ne veulent pas que le robot soit un instrument qui ait pour seul résultat qu'ils se retrouvent au chômage.

Ces objectifs sont clairs mais nécessitent naturellement une volonté de coopération permanente.

Les problèmes économiques, au contraire, me paraissent très insuffisamment étudiés. Le robot introduit une mutation industrielle dont nous apercevons certains aspects, mais que nous mesurons très mal.

Je souhaite très vivement que de plus nombreux chercheurs s'intéressent à l'économie du robot, et que Robotica encourage la publication de leurs travaux.

(Monsieur Didier Leroux,

*Honorary President of the Association Française de Robotique Industrielle,
Chairman of the 12th International Symposium on Industrial Robots).*