

THE BIO-ASSESSMENT OF LEGAL DIMENSIONS-LAW, TECHNOLOGY, ART

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Since the beginning of time and the entry of man into the universe, ways and means have constantly and persistently been sought to improve the quality of life on our planet. That search has been the golden thread running throughout the history of mankind: from the caveman wielding his club for protection and hurling his spear for food and clothing, to the present day wherein technology, in all its manifold facets, has risen, and is rapidly continuing its ascent to heights beyond the imagination even of those who set its early course. If one takes but a cursory glance at world history, it is readily seen how the development of society has brought in its wake ease, comfort and leisure activities which, in this era of super-modernity, are tended to be taken for granted by those who are fortunate enough to enjoy them.

Generation after generation has brought to the fore man's innate curiosity and unquenchable thirst for knowledge that have led him to innumerable scientific discoveries, many of which were harnessed or formed the basis for innovation in the field of technology. It would be true to say that every facet of life on earth has gradually become affected, in some way, by technological development: housing and all its sophisticated appliances, communication, agriculture, industry, health, transport and entertainment. All of these and others testify to the breathtaking and overwhelming scientific and technological progress that has taken place and is continuing to evolve before our eyes. In an era where heart, lung and liver transplants, space travel, mass-production, computerisation, and satellite communication have become almost commonplace, one is apt to wonder what further technology still remains to be uncovered and, particularly, how innovations, yet undreamed of, will affect the quality of life.

Technology, in ameliorating the conditions of life, offers countless benefits to mankind. It is true to say, therefore, that the harnessing of technology for man's activity, ingenuity and inventiveness has had, and is continuing to have, an ever-increasing deleterious affect on the conditions of life on earth. In the field of technological endeavour a price has been exacted in terms of pollution and other environmental hazards, the negative affect on ecology in general, the terrifying means man has developed for his potential self-destruction, and the inevitable stress and strain imposed on the mental and physical health of mankind.

Furthermore, one must not lose sight of the negative elements that have arisen in the wake of technological progress in its rapid march forward, hand-in-hand, with world trade and economy. I am referring here, amongst other facets, to the unequal division of living conditions throughout the world, the grave shortage of food in certain countries as opposed to the over-abundance and waste in others, the unequal distribution of wealth and technology, unemployment, and the decline in moral and ethical values.

Apart from the aforementioned elements technological progress has exacted a further price - one, however, that must be viewed in a positive manner. Reference is made here to the limited monopoly granted by a state to inventors. As a general rule, monopolisation, where this adversely affects the availability, quality, and price of goods and services, is harmful to the consumer. The patent monopoly as a means to encourage and protect inventors, and as a vehicle for the dissemination of knowledge and the transfer of technology, has proved itself, within certain limitations, to be of considerable positive benefit to the quality of life.

It is in this light that one must view yet a further step forward in man's scientific ingenuity, namely, the rapid progress that has been made in the field of biotechnology and genetic engineering. There can be no doubt that in this vast area, which to a considerable extent still remains unchartered, the discoveries and their technological application will have a tremendous impact on the conditions and quality of life. One sees here that a new spectrum is being uncovered - a spectrum which encompasses preventive and curative medicine, animal and plant life, agriculture, industry and ecology, in addition to a host of related and ancillary matters.

Although the actual and potential benefits are considerable and wide-ranging, the subject, in all its aspects, is complicated and raises numerous issues. Amongst these are industrial applicability, whether, to what extent, and in which specific areas, State protection should be made available to inventors, the nature and scope of such protection, the international harmonisation of laws, licensing, the dissemination of knowledge and transfer of technology, and the means by which the public interest is to be safeguarded. It is this particular and specialised area of human endeavour, which, notwithstanding its positive elements, is occasioning considerable doubts and unease to the world at large. In this context, the practical application of biotechnology and genetic engineering provide a classic example of the link between technology, on the one hand and ethical values on the other.

Clearly, answers must, and hopefully will, be found to the outstanding problems. In the past it has been necessary on numerous occasions, to come to terms with sophisticated and intricate technological development and to recognise that a price, often a high one, must be paid to

secure important advantages for the further well-being of man. That price, however, cannot be at the expense of moral and ethical values or, in particular, the respect for life itself.

In the field of biotechnology the beneficial affect on all forms of life on earth, and the resultant enhancement of the quality of life, demand acceptable and practical solutions to the problems that have arisen and those likely to arise in the future. This, in turn, will require the delicate balancing of interests between the inventor, on the one hand, and the public, on the other - a course which has not proved insurmountable in the past and, despite the varying and often conflicting opinions, should not prove impossible in the particular important and far-reaching area of human endeavour. Above all, urgent steps need to be taken for the dissemination of information to the public and to ensure that the social structure and legislation, within which biotechnology is to be exercised, must evolve at least at the same pace as the subject matter itself. In this regard it is felt that bios (life) can and will play a vital role.

A considerably older subject than that of biotechnology concerns the protection of man's intellectual creativity. The reference here is to copyright, the origins of which are buried in the mists of antiquity. At the point in time when it was decided to grant State recognition to the works of authors, the creativity giving rise to legal protection lay in the areas of literature, drama, art, and music. Although copyright has always restricted itself to expression, leaving the ideas embodied in that expression within the public domain, the nature of the protected subject-matter was felt, particularly in Europe, to demand a certain level of aesthetic quality.

With the development of new technologies during the last hundred years, problems arose in the field of copyright which, clearly could not have been anticipated by the draftsmen of the early legislation. The advent of phonogram, radio, cinematography, television, reprography, tape and video recording, and satellite transmission, brought in their wake problems in the field of legal protection. In the course of time both legislative bodies and International Conventions were able to come to grips with those problems within the framework of copyright.

Nevertheless, the task of assimilating new technologies within the framework of copyright was by no means a facile one. As each new and succeeding technological innovation was dealt with on a statutory level, a further one appeared on the horizon. Murmurings made themselves heard throughout the world to the effect that copyright protection was moving away from its original aesthetic principles and rapidly spilling over into the field of technology. During the course of time, however, these murmurings became less intense as their originators, realising the advantages of copyright as the best available protection, came to terms with the developments that had taken place.

It is clear that copyright, today, more than ever before, is very much bound up with the quality of life. With certain exceptions, the arts were reserved in the past, to those whose education and financial status allowed them to indulge in such pursuits. Today, technology has made it possible for vast numbers to enjoy art, literature, music, theatre and cinema. Whilst television, in many ways has shown itself to be a mixed blessing, it is arguable whether this particular innovation, the impact of which is increasing daily, can have a deleterious effect on the quality of life, the choice of whether or not to view lies with the viewer. In a similar way that choice of course is equally exercisable in the realms of literature, music, drama and art.

As in the sphere of applied technology, a price has to be paid for the enjoyment of copyright-protected works, namely, the monopoly and the rights flowing from this, bestowed by the law on authors. Nevertheless, when one weighs the advantages previously referred to in combination with an added vital factor, namely, the dissemination of knowledge, monopoly is a very small price to have to pay for an author's creativity, the benefit of which, in varying degrees, is to be enjoyed by all those wishing to do so.

Undoubtedly, new technologies and innovations will arise in the future and these, too, in the areas of social adjustment and legal protection, will have to be examined and dealt with as appropriate. Perhaps the most recent and far-reaching one, as far as our daily lives are concerned, is that of computer technology. Although the early "furor" at adding "software" to the list of literary works protected by copyright has diminished, the discussion on the subject is not over by any means.

Here the twin problems concern, first, the nature of software and whether or not it is to be considered a machine part and, second, the blurring of the dividing line between an idea, not protectable by copyright, and its expression which is protectable. For the moment, copyright has been chosen as the most suitable instrument of protection at both national and international levels. Whether or not that position will continue remains to be seen. One thing is certain: the impact that computer technology has, and will continue to have, on the quality and conditions of life.

The common factor underlying both biotechnology and the recent innovations brought within the framework of copyright, particularly that of computer technology, is the rather frightening prospect of man becoming overwhelmed by his own ingenuity and enslaved by his own technology. The future viewed in such a negative manner is indeed awesome. That approach with all its pessimistic overtones has to be viewed in its correct perspective. It is man who harnesses technology to his needs and well-being, not the reverse. It is man who is, and must remain, in control of his own technological ingenuity.

Under the aegis of Bios, dialogue and co-operation, at both national and international levels, will materially assist in restoring a balanced and optimistic outlook with regard to the future. It is here that the mass-media face a real challenge since it is they, with modern technology at their disposal, who are best equipped to disseminate a positive socio-educational approach to the problems facing the world today. In the final

analysis, it is the people who must be made to understand that the penetration of technology into all facets of society must ultimately be for the greater benefit of mankind as a whole. I would add, in conclusion, that the choice of Athens, the capital city of the most advanced ancient civilisation of its time, as the forum for this august gathering seems to be most appropriate and one that augurs well for the future.

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