

Vol. I

MARCH 1933

[No. 9

CONTENTS.	
I	AGE
Science and the Pace of Life	261
Hyperfine Structure of Elements in Mercury Arc—I By Prof. B. Venkatesachar, M.A., F.Inst.P., and L. Sibaiya, B.Sc., A.Inst.P.	
The Problem of the Lantana. By A. V. Varadaraja Iyengar, M.A., M.Sc., A.I.C., A.I.I.Sc.	•
Obituary-LtCol. J. Stephenson, F.R.S. By Dr. Baini Prashad	
Letters to the Editor:  The Origin of the Archesporium in Notothylas  levieri Schiff. MS. By S. K. Pande	272
An Interesting Case of Maternal Care in an Aquatic Cockroach, <i>Phlebonotus pallens</i> Serv. (Epilamprinæ). By Hem Singh Pruthi	
An Unusual Growth Phenomenon in Coleus barbatus Benth. By T. C. N. Singh	273
The "Metapterygoid Process" in the Skull of Ophiocephalus striatus By B. S. Bhimachar	
Total Efficiencies of Soft X-Ray Excitation and Secondary Electron Emission from Metal Faces. By S. Ramachandra Rao	
Engystomatid Tadpoles. By A. Narayana Rao	
Amphiboles in the Bababudan Iron Ores. By C. S. Pichamuthu and M. R. Srinivasa Rao	
Haploid Plant in Rice (Oryza sativa). By K. Ramiah, N. Parthasarathi and S. Ramanujam	277
Helminth Parasites from Certain Fresh-Water Fishes of India. By B. K. Das and M. Rahi-	
mullah	
•	279
A six and a six and a six a si	283 284
Marriage among the Uralis of Travancore. By	
L. A. Krishna Iyer, M.A.  A Bibliography of Zoological Work in India. By	285
_	286
	287
	290
-	292
[All rights reserved.]	

## Science and the Pace of Life.

IN an interview with a press correspondent at Bremen before he went on board the liner, 'Oakland', for San Francisco, Professor Albert Einstein is reported to have said that the present pace of life was too fast for the man-in-the-street even to catch the newspaper headlines and it was imperative that we slowed down. "A few years ago people had a chance to sit down and think. It could not be helped if some did not make use of the opportunity, but now no one is in a position to stop and think even if he desires to do so. We are moving too tast to allow a general understanding of science. The public is not much interested in it nor does it understand science. It is paradoxical, but apparently true, that the very instruments of science, instead of being devoted to help common men to a greater understanding of reality are doing just the opposite and are only succeeding in befuddling things even more. Scientific technique is growing so fast that it must soon slow down to permit the ordinary man to catch up."

To a casual reader of these sentences, if they have been reported correctly, they might seem to contain a severe indictment of the attitude of scientists towards the general public, and might even be understood to convey the impression that Professor Einstein thought that the progress of scientific investigations would not lose much if they were suspended for such time at least as would enable the common people to assimilate their great advances. perfectly true that the rush of modern life in Europe and America is far too tumultuous and excited to permit the man-in-the-street to stop and think of what is going on around him but science may not be the only contributory cause of this senseless impetuosity. We seem to forget that 'the world has not and never had any assured hope of progress and perfectibility' and neither acts of Parliament nor achievements of scientists can coerce them. The restlessness and discontent of the present age have their roots in social and economic causes and it is doubtful if the progress of science assisted in their acceleration. Most men are the victims of half-knowledge which is worse than honest ignorance, and being products of a bad system of education, are unable "to turn the light of knowledge on work." The present age has ceased to regard leisure and tranquillity as indispensable for adorning human environment and has placed implicit faith in wealth as the chief necessity for the embellishment of life.

This change in the scale of human values must account for the feverish pleasures and restless frivolities connoted by the "pace of life" to which Professor Einstein refers. Human happiness is conceived as centering in material comforts and the doctrine which assigns a subordinate position to worldly goods has become infructuous. The suggestion that greed is misery and its absence, happiness will have no meaning to the age which worships the golden calf. The thriftless yearning for money accounts for the mad rush of life and the unequal distribution of wealth, for much of the world's wickedness. There have been great civilizations in the past history of the world in which the ostentatious display of wealth formed the most conspicuous feature of the national pomp and pageantry, but history does not record that the people were consumed by such sinister passions as disfigure modern civilization. If in the days of the Mauryan dynasty and under Gupta administration unlocked doors did not excite the cupidity of the people, a great atavistic change must have since come over the human mind, a certain section of which laughs at locks, safes and science. Under the influence of growing industrialism, the concentration of population in urban areas, the stress of economic competition and the general prevalence of squalor, crime and poverty, the human mind has been insidiously estranged from spirituality which has been for ages its sheet anchor. The principal defect of modern civilization is the total absence of the fear of the Lord whose place is taken by Scotland Yard and the magistrate. The criminal, therefore, embarks on his private enterprise fairly convinced that he can elude human eyes and all other forms of anti-social practices are traceable to the same cause.

The invention of rapidly moving vehicles has brought the continents nearer each other, promoted commerce, stirred the instincts to accumulate large wealth and has also spread disease and has enabled international gangsters to set up alibis. The quieter and more normal aspects of life have nearly ceased to interest us and the growing tendency for the sensational and the abnormal is reflected in our public tastes, amusements,

fashions and literature. This morbid craving for stupefying thrills which is becoming general, is symptomatic of the degenerative process of the human mind which has missed the essence of absolute life, its hopes, its beauties and its ideals. The conflict between religion and science which occupied the greater part of the nineteenth century, has been wrongly assumed to have proved that the ideals of the former are thrown into the unknown future, thus paving the way for the purely materialistic conception of life. The attempt to interpret the world in mechanical and quantitative terms has led to the application of these principles to human life which was conceived to be an automaton and which, escaping from the stern discipline imposed by religious ideals, seeks its pleasures limited rather by the power of its enjoyment than by the apprehension of their effects on its intellectual, moral and spiritual endowment. The reason for the human mind's breaking away from religious doctrine is partly due to its non-recognition of man as an organic factor of the world and no theory which separates the two can satisfy philosophy and science. We are reaping the fruits of the supposed senseless antagonism between science and religion and its manifestations must necessarily perplex thinking minds. Instead of being mutually antagonistic, they represent the two modes of approach to the same problem, viz., life, in the investigation of which both are handicapped by the limitations of human intelligence and the defectiveness of the instruments of study. We are more conscious of our life than all the facts and evidences against 'life' as a spiritual entity and this very imminence of 'conscious life' baffles a detailed conception of its essence. The limitations of science are not different from those of the human mind and their continuance must indicate that the intuitive perceptions on which religion bases its doctrines of right and wrong, are quite as safe a guide as any that can be wished for. The promptings of the heart are far more true than the ratiocinations of the head.

The pace of life is not set by science alone though its discoveries on the practical side may have given it an impetus. Science is occupied with the investigations of the properties of matter, their causal relations and their behaviour under certain induced and normal conditions but its office does not cease with the discoveries which it

makes. It has a higher purpose and nobler destiny. Most of these discoveries have a practical application which may be directed to the improvement of life as well as its destruction, but science does not lead the way to either. The prostitution of the gifts of science is the business of the commercial and industrial syndicates and of the Government. It is here where the scientific results are applied to the practical problems of life that the pace commences, stimulated largely by economic competition, trade jealousy, fat dividends and capitalization of industry. The hunting after money like every species of hunt, is intoxicating and in its mad pursuit, the graces and beauties of life are ruthlessly sacrificed for those goods which all religions condemn as the parents of every vice and wickedness. The gold frenzy is at its critical point just now and when it subsides religion and science will have to step in to increase the wealth of the world by substituting new values in regard to human happiness which is at present treated as synonymous with material comfort. It is when we have reintroduced fear and admiration in our town life which is marred by social unrest, when we have humanised the commercial and industrial organizations which are riddled by maladjustments, when the rural population is enlightened enough to become intelligent participators in the gifts of learning and in civic administration that hopes may be entertained of the co-ordinated progress of the nation, with sufficient leisure and tranquillity to devote time and talents to the enrichment of their home and environment.

No one can be more vividly conscious of the limitations of science than he who has lived it, and its function is "no more to save our bodies than it is to save our souls". It seeks to uncover the veil of nature and deals with her facts and phenomena disclosing new worlds of thought, reality, laws and history of the visible universe. With the more technical parts of science, the general public can have very little to do, but it ought to be possible for those who have attained a reasonably high degree of education to become acquainted with the general advances of those departments of knowledge in which they are most interested or in which they have received their earlier training. To democratise science need not necessarily involve its degradation. At present the whole firmament

of public life is dark, illumined here and there by a few stars of the first magnitude whose glory is scarcely discernible in the immense general gloom of the sky. What Professor Einstein wishes is a widespread diffusion of light throughout this vast area, each body in it having the power of selfluminescence. It would be too narrow a view to take that the task of science begins and ends with research; for if the knowledge of science is good then it must be good for something and for somebody. It is perfectly legitimate for the scientist to emerge from the laboratory and give the people who care, an account of the joys and pleasures and the difficulties and trials in the prosecution of his studies and make them feel the same thrills, and participate in the cultural benefits which may have accrued to the investigator himself. All the agencies that are impressed in this task, viz., the Universities, the learned societies, the scientific associations and congresses and the press, have established wide channels of communicating knowledge to the general public, but their efforts are obscured by causes over which science has little control. We have to cure the gold fever before science can come to its own.

In India the task is far harder. Education has scarcely touched the outer fringe of the vast population. Those who have received the benefits of education are interested in matters and problems far removed from science. The younger generation is concerned more with the task of obtaining a livelihood than with extracourses of studies for the cultivation of mind. Those that have worldly goods, leisure and a fair measure of tranquillity are engrossed with activities naturally befitting their station in life. To the businessmen science is a superfluity. The Indian universities are nevertheless engaged in overcoming the inertia and in improving the pace of life in the right direction; but it will certainly take a long time for an exotic knowledge conveyed best in the foreign language to permeate and enlighten the whole of the Indian population. Whether it be in India or in any country, public life when freed from the tyranny of gold will instinctively seek knowledge, create leisure for the enjoyment of the beauties of art and literature, acquire power to visualise the higher ideals and the ambitions of a larger life than the one circumscribed by the narrow limits of industries, commerce and lop-sided progress.