

ation there is perhaps less dearth of information than negligence and inattention in performance. We behave hygienically when we are forced to do so, but not as a well-planned order of life. Above all, on this continent we have as yet to learn how to live, and the problem here is less simple than elsewhere, for life here, especially in the great centres, is life at its most complex. Nowhere else is the strain so great—nowhere else does it so rapidly increase in tension. It must be a nervous system other than that which has been and that which is that will stand it. That nervous system may be now evolving, but in the meantime the unfit are succumbing in numbers ever more alarming. Moderation in all things and elimination of the non-essential from our lives would do much to tide us as a race over the transition period.

Perhaps the most significant movement at present observable in medicine is the beginning of the application of the newer ideas of physics and chemistry to the solution of biological questions. One has ever to be on his guard lest he expect too much from the introduction of new methods for approaching problems, but in this instance the principles underlying are so fundamentally important and have already worked such marvellous transformations in the mode of thought and activity of chemists that we are justified in expressing great hope for the future in their use by medical investigators. The doctrines of Van't Hoff and Arrhenius are pregnant with great possibilities. Van't Hoff's brilliant generalizations with regard to the behavior of solutions are found to hold good by a whole series of workers—the laws of osmotic pressure are strictly analogous to the laws of Boyle, Gay-Lussac and Avogadro concerning gases. The theory of the dissociation of electrolytes—salts, acids and bases—into their components, the ions (cations and anions) which we owe to Arrhenius explains an enormous number of facts hitherto unintelligible. These newer doctrines not only co-relate facts hitherto unconnected, but they have shown the way to new lines of experimentation and have acted as a most powerful stimulus to original research. While it is probably not true that chemical activity is due solely to ions and never to whole molecules, yet the number of chemical reactions already proven, so the physical chemists tell us, to be purely ionic is very great, including certainly the majority thus far investigated. The studies of Kahlenberg and True on the toxic effects of acids and bases on plant life show that it is the hydrogen of the acid and the hydroxyl ion of the bases which is the active constituent. The significant experiments of Loeb on the power of muscle to absorb water in the presence of acids indicate the value of the physical-chemical method of thought in physiology. The work of Kronig and Paul upon the effects