less of its gold in the easily recovered, and more in the refractory or combined form. The problem of recovery had now to be attacked by improved mechanical and chemical methods. The sulphides or tellurides with which the gold was associated or combined had to be reduced to a state of minute subdivision by more perfect stamping or grinding, and elaborate precautions were necessary to insure metallic contact between the particles of gold and the solvent mercury. In many cases the amalgamation process failed to extract more than a very moderate proportion of the gold, and the quartz sand or 'tailings', which still contained the remainder found its way into creeks and rivers, or remained in heaps on the ground around the batteries. In neighborhoods where fuel was available a preliminary roasting of the ore was resorted to, to oxidize or volatilize the baser metals and set free the gold; or the sulphides, tellurides, etc., were concentrated by washing, and the concentrates were taken to smelting or chlorinating works in some favorable situation where the most elaborate metallurgical methods could be economically applied. Many efforts were also made to apply the solvent action of chlorine directly to the unconcentrated, unroasted ores; but unfortunately, chlorine is an excellent solvent for other substances besides gold, and in practice it was found that its solvent energy was mainly exercised on the base metals and metalloids, and on the materials of which the apparatus itself was constructed. This practically was the state of matters in 1889, when the use of a dilute solution of cyanide of potassium was first seriously proposed for the extraction of gold from its ores, and the proposal was far from favorably regarded from a chemical point of view, owing to the various difficulties which presented themselves. How each and all of these difficulties have been swept aside, how within little more than a decade this method of gold extraction has spread over the gold-producing countries of the world, now absorbing and now replacing the older processes, but ever carrying all before it—all this is already a twice-told tale which he only felt justified in alluding to as they were then meeting on the Rand, where the infant process made its *début* nearly fourteen years ago. The Rand today is the richest of the world's goldfields, not only in its present capacity, but in its potentialities for the future, twenty years ago its wonderful possibilities were unsuspected, even by experts. In 1889 the world's consumption of