PROGRESS

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EDITORIAL COMMENT.

Engineering Progress in 1906.

ELSEWHERE we print from an American journal a brief and informing review of the engineering work of the year 1906. The chief items concern water supply, irrigation, aeronautics, automobiling. and the electric light: all of which have been extensively referred to in our columns from time to time during the year. We have therefore not much to add to the very capable review, except to express our gratification that on these subjects our own conclusions are borne out by those of our distinguished and capable contemporary. In one respect these go slightly further than ours. We refer to the position held by the brothers Wright in the development of the practice of aviation. In our summary of the matter in January last we assigned these experimenters a foremost place, indicating at the same time that their methods were so remarkably thorough that it would not be surprising to see them carry off the prize for ultimate success whatever it might be Our conclusions, were supported by the announcement that the brothers had flown about the same distance as Santos Dumont and under the same conditions. It is interesting, by the way, to be able to add here that the reports of the witnesses—very few they were—of the feat of the brothers, were verified by the *Scientific American* through the medium of personal enquiry. The great American journal adds a new fact: namely that the brothers have flown slightly further than 25 miles on a flight that was ended only by the failure of the fuel carried. This is information of the utmost importance, which seems to justify the statement of the *Scientific American* that if the machine which the brothers have in hand for the purpose of flying 500 miles in ten hours, with one person aboard, turns out according to expectations, they will be entitled to the same position with regard to aviation as is held by Stephenson, Fulton, and Edison in the engineering developments with which their names are connected.

It is a pleasant surprise to most of us that the Cape-to-Cairo Railway, one of the most imperishable of the many monuments to the memory of Cecil Rhodes, is now within 400 miles of completion. It will at the same time damp some British ardour to learn that, in the present state of electric knowledge, there is not the remotest chance of the profitable result expected by a mighty directorate for the Zambesi Falls power scheme. But it seems impossible to answer the shrewd American statement that if it does not pay to take power from Niagara to New York it can not pay to take it from the Zambesi to Cape Town or Johannesberg, twice as far.

The national pride will be glad to read, on American authority that the Naval supremacy of Britain has been more than maintained by recent results of British enterprise of which the most marked is the unparalleled success of the *Dreadnought*, first of the battleships of the world. All the more so as the unexpected news is added of the securing by the British Admirality of the swiftest type of torpedo craft yet invented: the invention of the celebrated British house, let us add, of Yarrow, of London. The name of the Japanese *Dreadnought*, the *Satsuma*, looms across the record with a somewhat sinister glare, in the light of the recent trouble about the Californian schools. It reminds us that the Yellow Peril is closing upon the west, gathering strength with the increasing efficiency of the eastern nation. It is reassuring to read in this connection that the muster of the United States Navy at Oyster Bay late in the year was equal in efficiency to the combined strength of Japan and Russia before the great war in which the naval power of the latter was totally blotted out. With Great Britain at the head of naval enterprise with the *Dreadnought*, and America pressing onwards with a fleet of the first class at a commendable rate, which has already achieved the position of Oyster Bay as above described, it may be long before the Yellow Peril will be a danger to make the west tremble.

For the rest ,we see in this review many things opening out with promise. At the head of them stands the Panama Canal, which has to-day risen superior to the disasters of speculative finance, and stands on the firm basis of a project definitely outlined and fully shaped to the utmost point of detail, an 85 feet high-level lock-and-lake canal. American sagacity has placed the canal project on this basis. and may be trusted to supervise the construction with adequate shrewdness. When the consequent development of maritime trade sweeps us into its vast net, irrigation schemes on the lines treated in this review of the year's operations will enable this country to keep pace with vastly increased produce of every kind. A cheaper light stares us in the face thanks to the metallic filaments so much discussed in late files. The electrification of the railways of New York contains the germ of the electrification of all railroad transit. This is important in view of the statement of President Roosevelt the other day that the railroad system of America vast as it is, has absolutely broken down so far as its primary duty is concerned, of carrying the products of the country to and fro. In this connection there appears looming the shadow of the problem of state ownership, a problem solved long ago by these colonies with the very best results as guides to the practice of the great world. In automobilism the march of progress appears to have been confined to details rather than principles. The striking development here has been the extension of the use of the oil engine to a degree that will probably be found to be revolutionary of existing methods.

With the development of that useful material ferro-concrete, we conclude this reference to the achievements of the year. It is a material which seems destined to force itself to the front in every line of building, and apparently is prepared to give in return for this preferment a system of buildings proof against the great enemies of the builder, earthquake and fire. Should that promise be realised, the progress of 1906 will mark its year with a special mark in the historic record.