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BORING

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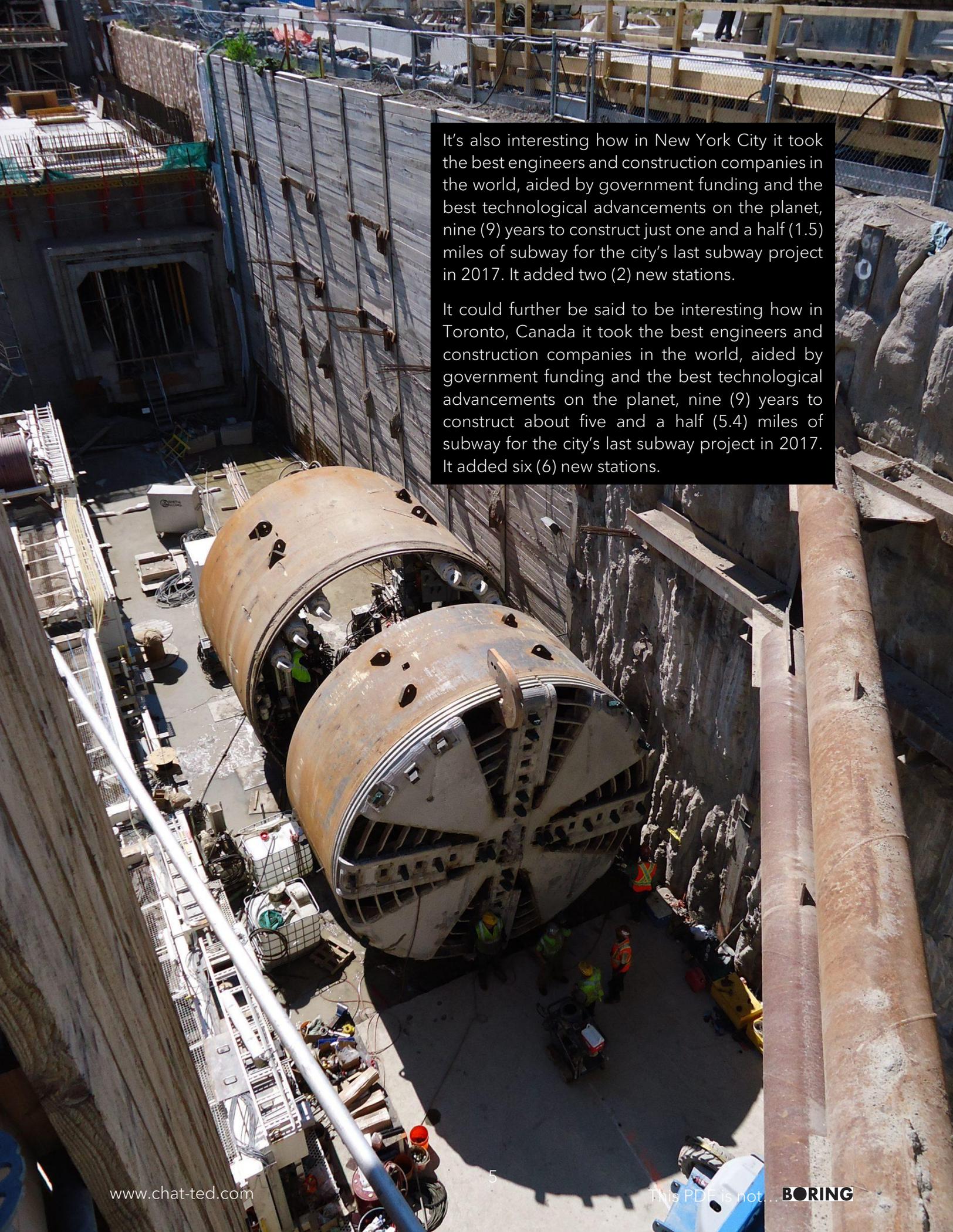
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It's interesting how in London, England it took pioneering engineers and general laborers three (3) years to construct three and three quarter (3.75) miles of subway for the first subway project ever in 1863. It had seven (7) stops. This was accomplished before the conception of:

- Satellite coordinated GPS and imagery
- Radio and cell communication
- Hydraulic machinery
- Ground Penetrating Radar and 3D models
- Advanced Industrial Radiography
- Software for designing and correcting blueprints
- Printers to readily make, share and replace copies of blueprints

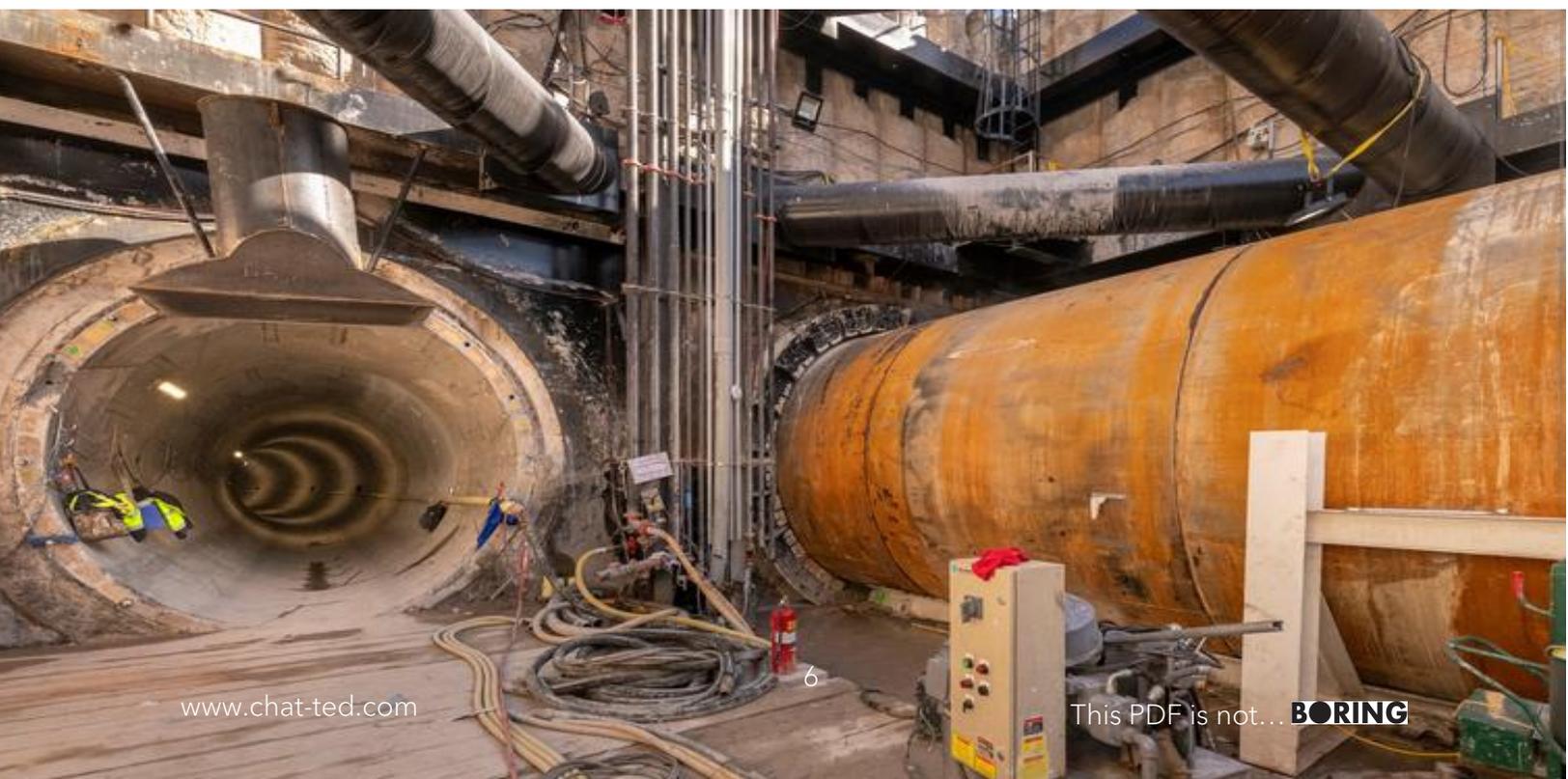


It's also interesting how in New York City it took the best engineers and construction companies in the world, aided by government funding and the best technological advancements on the planet, nine (9) years to construct just one and a half (1.5) miles of subway for the city's last subway project in 2017. It added two (2) new stations.

It could further be said to be interesting how in Toronto, Canada it took the best engineers and construction companies in the world, aided by government funding and the best technological advancements on the planet, nine (9) years to construct about five and a half (5.4) miles of subway for the city's last subway project in 2017. It added six (6) new stations.



Of final interest is how the brightest mind in this environment, Elon Musk, equipped with essentially unlimited financial and technological advancements at his disposal, has only been able to construct a few miles of basic substructure in a period of eight (8) years.



Question:

How did people in premodern times, without the aid of reliable writing implements (*the fountain pen was invented in 1884*) or companies like Grainger, perform the work required to construct major infrastructure projects at a rate of speed that surpasses the capabilities of modern humans and technology?

Quick Answer:

People had less bureaucracy to contend with, less underground obstacles to contend with and labor was abundant (*many hands make light work*). Major projects raced through to completion because they had less form and complexity compared to present day modern work.

Deep Answer:

A lack of, i) direct observation and ii) accurate and replete evidence of chronologically documented progress using photography and film, make it easy to devise quick and rational explanations for questions that present anomalies.

Quick explanations lack probity and overlook an incalculable number of time increasing variables like, in this instance, needing to deal with unexpected groundwater and/or rainwater accumulation when undertaking mass excavation in an era predating mechanized pumps and vacuums.

Grounded Abstraction:

Steam powered equipment is cumbersome and unreliable, leaving the bulk of work in any premodern excavation work to manual labor. Manual labor is very inefficient. A laboring male human body requires no less than 2,500 calories a day to maintain weight and no less than one (1) gallon of treated water in cool weather and two (2) gallons of treated water in warm weather to avoid short-to-long-term health complications. Horses require twenty to thirty (20-30) gallons of water per day and twenty to thirty (20-30) pounds of hay in addition to a lot of constant maintenance. The logistics of reliably producing and transporting the calories required to **consistently support** the workforce for any elaborate infrastructure project in a premodern era is highly unlikely due to the lack of, i) fast writing implements, ii) literacy and iii) fast and remote communication capabilities needed to coordinate and maintain a supply chain.

Question: In a 10 second elevator pitch, what is this site about?

Answer: How everything constructed comes together despite a lack of time for it to, and how observation affects the observed.

∴ What is less interesting, and a fact, is that the past is the past.

Modern construction is, however, revealing of its own **anomalies** when closely observed.

Monitoring and timing real-time crane operation indicates, oddly, that there isn't enough time to perform the enormous number of tasks on a site required of one or more cranes; yet jobsites gradually come together when unmonitored, leaving city landscapes like Austin almost unrecognizable every five to ten (5-10) years.

There is a way to capture and verify anomalies pertaining to more than just crane operation in modern construction with valid experiment.

Such experimentation may very well lead to new insights into the nature of modernity and this environment; insights that could be of tremendous use to accredited individuals in STEM and, in turn, the layman.

If you're passionate about STEM, or just curious as to how skyscrapers built by one hundred (100) to one hundred and fifty (150) men routinely rise up at a pace of one (1) floor every two (2) weeks (*when a house can take a year or more to build*) scan the QR code or check out the website it directs to at www.chat-ted.com.

Regards,

