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EN 233 – Data and Literature in the Scientific Revolution
Prof. Aaron Hanlon
Close Reading Essay

Big Data and Longing for the Long Term

"Just as individuals forget the past, so do societies. To quantify this effect, we reasoned that the frequency of 1-grams such as "1951" could be used to measure interest in the events of the corresponding year, and we created plots for each year between 1875 and 1975. The plots had a characteristic shape. For example, "1951" was rarely discussed until the years immediately preceding 1951. Its frequency soared in 1951, remained high for 3 years, and then underwent a rapid decay, dropping by half over the next 15 years. Finally, the plots enter a regime marked by slower forgetting: Collective memory has both a short-term and a long-term component. But there have been changes. The amplitude of the plots is rising every year: Precise dates are increasingly common. There is also a greater focus on the present. For instance, "1880" declined to half its peak value in 1912, a lag of 32 years. In contrast, "1973" declined to half its peak by 1983, a lag of only 10 years. We are forgetting our past faster with each passing year." (Michel, 178-179)

Data has changed us. We are not even aware of the quantity and quality of the information we provide through our daily routines, and somehow these data gatherings shape our lives. But how exactly? By aggregating all the data from individuals collected in a short period of time into one large data set, we come across "big data." Big data by itself is raw and offers no meaning per se; it is only when the data is processed by computational tools that we can make sense of any underlying structures and patterns in it. Since we're inevitably biased by our short lifespans, we focus too much on the immediate present and its interpretation and give in to what Maria Popova calls "presentism bias" ("Cartographer"). Our perception of time as a reverse chronology leads us to believe that the most recent events are the most important and the older ones matter less, exist less, or simply never happened. This is especially relevant now: our focus on the short term does hardly includes a window for the long-term perspective. According to Michel et al, "we are forgetting our past faster with each passing year." Our collective memory is shortening at the expense of the long-term perspective because of big data and the profound, rigorous analysis that

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it offers. In order to include this long-term history in our interpretation of the present, we need

long-term tools in addition to big data.

Considering data as storage for human memory, it "has both a short-term and a long-term

component." Big data and its analytics address the short-term component by processing

enormous quantities of current data of the immediate present. Using these new techniques, we

are able to look at our recent past, present, and brief future relative to daily lives. This means that

we're able to interpret our current reality profoundly in the time frame of our short lifespan.

Fernand Braudel refers to this phenomenon as the "history of events", "history of brief, rapid,

nervous fluctuations, by definition ultra-sensitive" ("Preface" 21). Within this focus on the present,

big data, and analytics have contributed to advances, renewal, and the self-perfection of emerging

concepts and prototypes. It has also made immediate worldwide trends very pronounced,

exposing significant advancements in a very short amount of time. With the aid of big data

analytics, we "have a more rapid assimilation of the new" (Michel 179). By enhancing our

reasoning capabilities, we can keep track of the rapid changes in ideas, since most don't have time

to fully develop before they're discarded in favor of the most recent one. This bias towards the

recent and the short-termism of big data is in part due to the boundaries that technological

developments impose in its advancement. Thus, big data has temporal constraints and it

progresses only as fast as the technology to support it, boosting the attention to the present.

Another effect of short-termism brought about big data analytics is its influence decision-

making. Most critical decisions are made in terms of the present and the immediate consequences

and are justified with current data instead of considering any understanding the past may bring.

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However, the information we rely on is not a comprehensive unity: it is a very deep analysis of a very short amount of time. This is eerily similar to one of the Party's slogans in 1984: "Who controls the past controls the future: who controls the present controls the past" (Orwell 16). Presidential elections, economic policy decisions, and fiscal cycles last several years at most, with no way to guarantee any continuity between one cycle and the next. All of these choices that may seem like big news in the moment also have long-term manifestations that we cannot foresee yet.

For Braudel, specific events were no more than "surface disturbances, crests of foam that the tides of history carry on their strong backs" ("Preface" 21). The sea of history is much deeper and complex than the quick crash of events. In order to interpret the structure of long-term history, we need a tool that goes beyond having the present in huge quantities and addresses larger historical epochs—we need long data. Just as big data addresses the short term, long data would address the long term; it would encompass data sets over hundreds of years. This concept is in tune with the *longue durée*, a history that goes across centuries. We'd be able to delve deeper into what happened in the past with current concepts and distinctions to better understand the organization of gradual changes that are still very much affecting us. Since we're still experiencing the repercussions of events that happened centuries ago, we need a way to perceive the incremental changes that we cannot see in our day-to-day life. In order to stop justifying the present with the past and start understanding it, we need a trained eye to look at the macro trends to give it meaning.

Long data should be added as a tool for analysis because it provides context to the fluctuations that seem discrete in big data but are actually part of a longer series. It's not about

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choosing one type of data over the other, since both big data and long data can shed new light on

the past, present, and future. The short term and the *longue durée* need to be balanced. If "indeed,

the world around us is hungry for long term thinking" (Guldi 16), what does it take to satisfy that

hunger? If we have all the tools for a deep short-term analysis, how far are we from achieving a

deep long-term analysis? Certainly big data analytics offer us critic perspectives and updated

analyses on micro trends, but nothing yet on macro trends. This is why we're forgetting our past

faster each year.

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