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Observations, Narrative, and Data in Nineteenth-Century Asylum Medicine

ABSTRACT

French asylum doctor Ludger Lunier's effort to measure the causal force of war and revolution in the production of insanity involved reasoning from data in an unfamiliar form. Lunier built up what we can call a medical database from an accumulation of about four hundred compact case narratives, some of them based on his direct experience. Although the conclusions he sought were purely quantitative ones, he returned repeatedly to these elemental accounts of the genesis of madness. This essay is part of a special issue entitled *Histories of Data and the Database* edited by Soraya de Chadarevian and Theodore M. Porter.

KEY WORDS: case histories, data-driven, insanity, narrative, standardization

Ludger Lunier ranked among the greatest data enthusiasts of his century. He devoted his career to the treatment of the insane, first as an asylum doctor ("alienist") and subsequently as a state inspector of these institutions. As a public health enterprise, asylum care was a thoroughly statistical enterprise, all the more so because it was partly funded and heavily regulated by state ministries and legislatures. Lunier's commitment to complete and accurate data was apparent in almost everything he did. He dreamed of creating statistical categories whose validity would extend beyond his native France to every nation. This vision of quantitative knowledge built up from an accumulation of case "observations" was unwieldy and perhaps impossible. Yet he never

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dreamed of walling off his data from narrative case descriptions (called "observations"), clinical judgment, or professional solidarity.[1]

The systematic recording of data on insanity was part of a wider statistical movement that is usually dated to the period from about 1820 to 1850. "Statists," as these quantitative investigators were called in English, liked to represent themselves as dealing in neutral, atheoretical facts. Although *data* was not yet the banner for armies pursuing salvation by accumulating numbers, the ideal of amassing information bit by bit had an irresistible appeal. The datum, which may plausibly be construed as a still more elementary unit than the fact, is more and more associated with self-abandonment in the face of adamantine experience.

The more recent notion of "data driven" captures this sense of submission to data. That term was introduced about 1975 in computer science to refer to "bottom-up" programming, as opposed to *conceptually driven* or *model driven*.[2] Right from the start, the distinction was understood as equally pertinent to computer programs and to the psychology of human reasoning. A coauthored paper by an academic psychologist on leave at the (Stanford) Center for Advanced Study in the Behavioral Sciences and a member of the Xerox Palo Alto Research Center explained how "psychological processes" depend both on computational power and on quantity of acceptable data.[3] Neither for computers nor for minds was it obvious that data-driven procedures should be preferred to conceptually driven ones.

Machines and algorithms have long enjoyed a special status on account of their seeming invulnerability to ad hoc human adjustments or deviations that open the door to bias or selfish interests. The present-day cult of *data-driven science* manifests the same anxieties in a new key. Faced with charges of letting their own political preferences influence scientific claims on contested issues such as anthropogenic climate change, scientists and journalists invoke the rigors of data to make clear that neutral science rather than interested scientists makes the calls. It may thus appear advantageous to downplay the creative

1. Theodore M. Porter, *Genetics in the Madhouse: The Unknown History of Human Heredity* (Princeton, NJ: Princeton University Press, 2018), chap. 7.

2. Peter Lindsay and Donald A. Norman, *Human Information Processing: An Introduction to Psychology* (New York: Academic Press, 1977), 80.

3. Donald A. Norman and Daniel G. Bobrow, "On Data-Limited and Resource-Limited Processes," *Cognitive Psychology* 7 (1975): 44–64, 44–45. On the appropriation of computer conceptions by psychology, see Gerd Gigerenzer, "From Tools to Theories: A Heuristic of Discovery in Cognitive Psychology," *Psychological Review* 2 (1991): 254–67.

engagement of scientists in shaping and interpreting their evidence. Since the 1930s and 1940s, the statistical test of significance has functioned in a similar way for administrative and policy determinations as well as scientific and medical ones. It is analogous to cost-benefit analysis, which rose to prominence as a policy tool at about the same time. To refer to knowledge as data-driven is to deny the human element. Wikipedia explains it compactly with no pretense of sophistication or nuance: "The adjective **data-driven** means that progress in an activity is compelled by data, rather than by intuition or personal experience. It is often labeled as business jargon for what scientists call evidence-based decision making."[4]

This ideal of human reason as mechanical and even algorithmic was uncommon before the 1940s. Although it sometimes was used to debunk the pretentions of established elites or as a defense against the charge of interestedness, few who argued that way made much effort to assemble a machinery of routinized reason. Places where you might expect such efforts, like the statistical discipline that began to take form in the 1890s, could be quite militant in defense of the role of wisdom and experience in these operations of mathematics on data.[5]

MEDICAL DATA AND OBSERVATIONS

Medicine in the West had long cultivated a sense of the role of close study and experience to learn to adapt the rules of practice to the particulars of each patient. Although asylum medicine had some special characteristics, not least in the pervasiveness of numbers, it persisted, not least in France, in its alliance with the intellectual culture of bodily medicine. Lunier, however, appears at first to be an exception, holding to a contrary ideal of statistical uniformity. His great project of medical-statistical standardization was designed in part to reduce asylum data to concordant units. If successful, it would allow not only

4. https://en.wikipedia.org/wiki/Data-driven (6 Jul 2017).

5. Paul Erickson, Judy L. Klein, Lorraine Daston, Rebecca Lemov, Thomas Sturm, and Michael D. Gordin, *How Reason Almost Lost Its Mind* (Chicago: University of Chicago Press, 2013); Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press, 1995). On individuality and wisdom in statistics, see Porter, *Karl Pearson: The Scientific Life in a Statistical Age* (Princeton, NJ: Princeton University Press, 2004).

comparisons of numbers from different institutions, but also the merging of data to reveal the many causes of madness everywhere.

Yet he did not presume the automatic correctness of his data, but explained clearly that for some purposes the raw numbers had to be adjusted to provide a basis for valid comparisons. For example, data from his own institution seemed to show that the opening of a new asylum led to the diagnosis and admission of many new patients from nearby.[6] Asylum counts and censuses in his day showed a massive increase of insanity just as institutions for its care and cure were becoming widely available. Were mental institutions, introduced with so much hope and supported by excellent cure rates, actually ineffective or worse? Most medical commentators doubted that the apparent growth of insanity was real.

The numbers, nevertheless, were closely watched. A mental hospital—or any other institution—with hundreds or thousands of patients could scarcely get by without quantitative data. Asylum care was, by 1870, among the most important social expenditures in the industrializing world. Not least for budgetary purposes, it seemed necessary to gather detailed patient data, starting with records on admissions, discharges, recoveries, and deaths. The uniform statistics that Lunier proposed were modeled on the abundant tables required of medical directors of asylums. At the level of the state, standardized data appeared necessary for rational administration. Like so many alienists, Lunier wanted to see numbers and data put to constructive use, medical as well as bureaucratic.

What did it mean, however, to rely on data? Lunier's patient database, to apply an anachronistic but appropriate term, was not grounded simply in boxes checked and tallied. The admission form was not the only technology for recording what physicians called "observations" (the word, coming from Latin, is identical in English and French). A sequence of compact entries, many no more than a single word, lined up in a horizontal row on facing pages of a massive admissions book, seems at first far removed from a case history. These entries could, however, be strung together in paragraph form to sum up the results of the doctor's interview with relatives of a new patient. Data and narrative ran together in these observations (or case histories). Narrative could just as well be the source as the outcome of numerical data.

6. Ludger Lunier, "Recherches statistiques sur les aliénés du Département des Deux-Sèvres," *Mémoires de la Société de Statistique du Département des Deux-Sèvres* 16 (1855): 38–53 and shaded map showing frequency of insanity.

The longest entry in an admission book—and the only entry that was likely to provide a descriptive account of symptoms and behaviors—was filled out for legal reasons as evidence of a disorder requiring institutional confinement (often at public expense). These data demands, which grew more stringent over the course of the nineteenth century, structured the case report as a fusion of law, medicine, and statistics. Perhaps the most important reason to record the trajectory of mental illness in narrative form, focusing on the experience of individual patients, was to advertise the good work of the asylum in reports directed to a non-specialist audience of patient families, legislators, and citizens or ratepayers. Lunier's 1863 report for the asylum at Blois, on the Loire River, included about ten pages of "observations" and six more of case descriptions to assess curability, in a volume whose 120 pages were packed with tables and lists. His narrative writing complemented the statistics. In asylum medicine, the boundary between data and cases or "observations" was blurred, and the reasons for prose portrayals of patient experience were mixed.[7]

In 1870, when war broke out between Prussia and France, Lunier's push for international standardization quickly unraveled. He bounced right back, seizing the opportunity to measure the effects of war and political turbulence on mental illness. This attribution went back to the start of the French Revolution, to which Philippe Pinel and then Étienne Esquirol attributed many of the cases they recorded over the next quarter century. The issue resurfaced in France in the aftermath of revolutions in 1830 and 1848. Lunier saw in the wartime disorder of 1870–1871 an opportunity to investigate this question properly.[8] The patient survey he designed for this purpose supplied much more detailed information than a mere recording of causes for new and readmitted patients. He divided France into four regions based on their experience of war. The first group took in 21 *départements* including 14 asylums that were occupied by the German army until July of 1871 or later. The occupation was

7. Porter, *Genetics in the Madhouse* (ref. 1), chap. 9; Gianna Pomata, "Observation Rising: Birth of an Epistemic Genre, 1500–1650," in *Histories of Scientific Observation*, eds. Lorraine Daston and Elizabeth Lunbeck (Chicago: University of Chicago Press, 2011), 45–80; Andrew Mendelsohn, "The World on a Page: Making a General Observation in the Eighteenth Century," in *Histories of Scientific Observation*, eds. Lorraine Daston and Elizabeth Lunbeck (Chicago: University of Chicago Press, 2011), 396–420. See also Asile départemental d'aliénés de Blois (Loir et Cher), *Compte-Rendu du Service Médical pour l'année 1863* par M. le Docteur L. Lunier, Directeur-Médecin en chef (Blois: Imprimerie H Giraud, 1864).

8. Jean-Claude Caron, *Les feux de la discorde: Conflits et incendies dans la France du XIXe siècle* (Paris: Hachette, 2006), chap. 15.

not prolonged to the same extent in his second territory, though the fighting, as he explained, was more sustained. The direct experience of war for patients in his third region was brief, and the fourth knew it only indirectly from reports. It was in fact the second group that reported the highest proportion of war-related mental illness. The differences, however, were modest, except in the fourth group, where the percentage of cases attributed to war and occupation was about half the maximum level. He divided his patients between men and women, as asylum tables always did, and found the effect of war on men in all four regions to be much greater than that on women. Omitting the group that never experienced the war or occupation directly, the figure for men was close to 20 percent, while for women it varied from about 10 to 15 percent.[9]

The empirical base for Lunier's book on political and social disorder in the genesis of madness was not limited to numbers and other factual nuggets. His second chapter consisted of numbered observations on about 320 patients. In Chapter 3, which focused on the forms of mental illness caused by such disturbances, he added 55 more observations. It is an open question whether the word "data" is the right one to describe these little case narratives. The word *données* was already familiar in French, and he did not use it. Yet these 375 *observations* functioned as a database in a study whose conclusions were presented in statistical form. They come right after the brief introduction, which sketched out the problem and outlined his categories and methods, in a chapter on "etiology." They filled about 215 pages, more than two-thirds of the book. Many of these observations he wrote up himself, relying at least in part on a direct encounter with the admitted patient, and the rest he solicited from trusted colleagues at diverse institutions. They did not depend much on the statistical forms that had to be filled out for the admission of a new patient. Instead they informed and legitimized the statistical reasoning. Often, to reassure readers on points that might be doubted, he wrote in his own voice or pointed to the first-hand knowledge on which his medical sources relied for their etiological material. Still, for statistical purposes he treated the observations as homogeneous. The patient narratives, though filling only a short paragraph in most cases, provided accounts of the events or

9. Ludger Lunier, *De l'influence des grands commotions politiques et sociales sur le développement des maladies mentales. Mouvement d'aliénation en France pendant les années 1869 à 1873* (Paris: F. Savy, Libraire-Éditeur, 1874), 3–10.

circumstances driving each patient to madness. The medical determination of cause was always backed up by a story.

Number one among assigned causes was "approach of the enemy, invasion," followed by "fear or fright of war." Others included news of reverses at the front, the sight of a German soldier, patriotic excitation, and anxiety about being forced into military service. He arranged his observations in sections according to the cause, then compressed his teeming narratives into tables, and finished with numbers and explanations for the sorts of people who were most strongly affected by each type of cause. In a very short preface, and again in his conclusion, he explained that his original plan was simply to gather statistics, but that the observations proved too interesting and too informative to be omitted. It may also have been relevant, though he did not say so, that the statistics, by themselves, were somewhat paradoxical. His text wrestles with an apparent contradiction.

The numbers he extracted from his observations supported a considerable, if not overwhelming, causal role for combat, occupation, and political disorder (notably the Paris Commune) as a cause of insanity during this turbulent period. There were, however, other relevant statistics leading to a diametrically opposite assessment. Notwithstanding all these victims of war and political disturbance, the total of new patients during the period of war and occupation was appreciably lower than before. About 1,300 to 1,400 new cases, based on assigned causes, were attributable to the events of war. Yet, even though the French asylum system had been expanding by about 1,000 per year, the total of new admissions had decreased in the year of fighting by 1,412. All this violence and disorder had, according to the arithmetic, *reduced* annual admissions, perhaps by as many as 3,000 patients. These numerical facts, seemingly contradictory, had to be reconciled somehow.

As so often in regard to asylum data, there were reasons to imagine the numbers might be factitious, owing, for example, to the inaccessibility of hospitals. In Paris, asylum intake was mostly blocked for about four months from the beginning of war. Pursuing the issue further, Lunier learned from leading Paris alienists and from his own observations that low patient admissions continued for several months after access was restored.[10] He concluded that the wartime decrease of new mental patients must be real. At the same time, the details of his hundreds of cases tended to solidify his conviction that their links to wartime disorder were genuine. His stock of medical

10. Ibid., 289–90.

observations furnished many convincing instances. Pierre, an unmarried man of 61, was diagnosed with acute mania, triggered by patriotic sentiments and preoccupation with the war. Lunier had encountered him in town just a few days prior to his admission, and witnessed directly his "symptoms of manic excitation" including animated physiognomy, loquacity, and unstable ideas, particularly on matters of national defense. Pierre repeatedly traversed the city to report to authorities some infallible means for vanquishing the enemy. He must have had a hereditary susceptibility to wartime mania, since his brother, who closely resembled him, manifested strikingly nearly identical symptoms.[11]

Lunier was convinced that the 195 men who became insane as a result of being called into the army, as well as 74 more who went insane in reaction to the threat of being called, were authentic. Many had been shocked to learn that their age would not exempt them from conscription. He emphasized that the excess of men over women among cases attributed to war was not due to any special vulnerability, but to their exposure to war events that did not directly impact women. Removing these 269 driven mad by the prospect of conscription left just 319 men driven mad by war events to compare with 317 women. Some causes were much more common among women, such as fright at unexpectedly encountering a German. Lunier was satisfied that causes like these could bring on a new or recurrent case of insanity.[12]

PERSONAL AND MEDITATIVE DATA

Certainly his conviction was bolstered by his ability to back up these statistics with authenticated individualized *observations*. Lunier seemed to have had a personal connections with many of the asylum directors on whom he relied. Dr. Péon of the Cadillac Asylum near Bordeaux drew up the history of a scrawny, lymphatic farm boy, age 22, of sedentary habits and ordinary intelligence, who, eight days prior to being mobilized for his unit of the guard, fell into a depression "marked by a calm attitude imprinted with profound sadness." He entered the asylum five months later, still wracked by melancholy, barely capable even of uttering a few words, and died there a year after that.[13] In some cases, Lunier's data depended on close or even intimate

11. Ibid., 44.
12. Ibid., 26–27.
13. Ibid., 69.

relations with the victims of wartime insanity and their families. Observation CCCX, recorded by Lunier himself, relied mainly on a letter from the sick soldier to his parents, which they must have passed on to him. Lunier also provided Observation CCCXX, in which he was summoned to the apartment of the unfortunate Madame P., age 29, after a bomb exploded there. He subsequently learned from her husband that as her maniacal agitation reached a new level of intensity, her menstrual flow again became blocked for no apparent reason.[14] We see that Lunier's database was not remotely official, but interwoven with networks of trusting patients and trustworthy doctors. He even set aside his conviction that when grief, business failure, lost love, or some other "moral cause" led to insanity, it usually was bolstered by hereditary predisposition. The trauma of war seemed to make heredity superfluous. Only a minority of these wartime patients showed hereditary causation. The numbers in his last report from Blois, in contrast, had revealed hereditary susceptibility in more than 63 percent of the patients.[15]

A proper account required a balancing of trauma and predisposition, or story and statistics. Probably the disruption of asylum administration had a role, but the war must also have interfered with important etiological factors. The numbers had developed similarly during the revolutionary period of 1830 to 1831. The crucial factor here was the inverse effect of heredity during periods of trauma. "It seems in effect that among individuals predisposed [to insanity], the events may have had the effect of creating so great a diversion as to abort the explosion of mental alienation." A German critic, F. W. Hagen, argued that the key question of this investigation, the causal role of military and political disturbances, did not require or depend on any statistical balancing or summing up. Although he put little faith in the causal conjectures put forward by naive relatives of new patients, medically investigated causes were something else. In a review and commentary on Lunier's little book, he emphasized the deep investigation required to validate a cause. Lunier and his colleagues, he thought, had carried out proper inquiries. Their numbers, based as they were on expert observations or cases, could be taken as accurate.[16]

14. Ibid., 214, 220.

15. Ibid., 26–30, referring to p. 9 of his report on Blois.

16. Ibid., 29–30, 281, 23; F. W. Hagen, *Statistische Untersuchungen über Geisteskrankheit, nach den Ergebnissen der Ersten Funfundzwanzig Jahre der Kreis-Irrenanstalt zu Erlangen* (Erlangen: Verlag von Eduard Besold, 1876), 21–23.

To a first approximation, that in fact is what this French apostle of medical standardization had done. Although his conclusions were based on a final reduction to numbers, Lunier's database of narrative observations permitted, and perhaps even required, sustained contact with his information sources. Automatic, algorithmic data is not the only possible form. Do we conclude that Hagen and (perhaps) Lunier were right, that data work depends on an engagement with narrative cases to reach valid quantitative conclusions? One can meditate . . .