

Why technologies are not neutral, and why it matters for linguists

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Short version

- Technologies (including software) are not neutral because they are designed, made and used by people
- Linguists are people too, and they are making increasing use of digital technologies in their research







BIAS, MISTAKES AND ERROR



Bas van Heur
@basvanheur



Volg je nu

thought this was satire, but it's real: Mercedes says its self-driving cars will kill pedestrians instead of drivers

Vertaling bekijken



Self-Driving Mercedes Will Be Programmed To Sacrifice Pedestrians To Save...

Mercedes gets around the moral issues of self-driving cars by deciding that of course drivers are more important than anyone else.

fastcoexist.com

RETWEETS

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VIND-IK-LEUKS

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00:15 - 16 okt. 2016



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Gene name errors are widespread in the scientific literature

Mark Ziemann, Yotam Eren and Assam El-Osta 

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Abstract

The spreadsheet software Microsoft Excel, when used with default settings, is known to convert gene names to dates and floating-point numbers. A programmatic scan of leading genomics journals reveals that approximately one-fifth of papers with supplementary Excel gene lists contain erroneous gene name conversions.

Keywords

Microsoft Excel – Gene symbol – Supplementary data

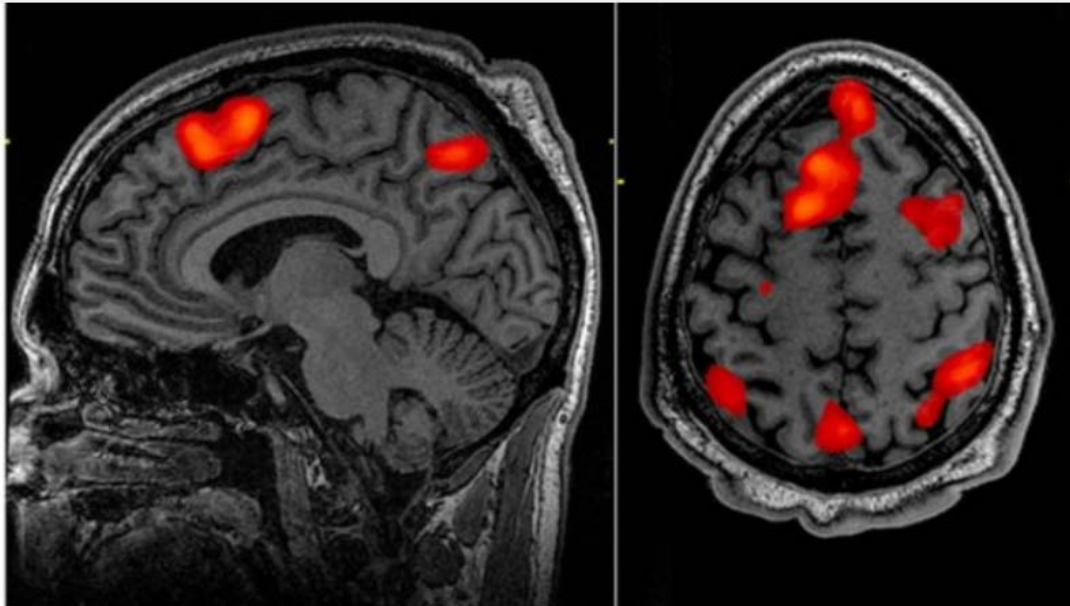
The problem of Excel software (Microsoft Corp., Redmond, WA, USA) inadvertently converting gene symbols to dates and floating-point numbers was originally described in 2004 [1]. For example, gene symbols such as *SEPT2* (Septin 2) and *MARCH1* [Membrane-Associated Ring Finger (C3HC4) 1, E3 Ubiquitin Protein Ligase] are

OOPSIE! —

Software faults raise questions about the validity of brain studies

Interpretation of functional MRI data called into question.

JOHN TIMMER - 7/1/2016, 8:55 PM



Waite Reed National Military Medical Center

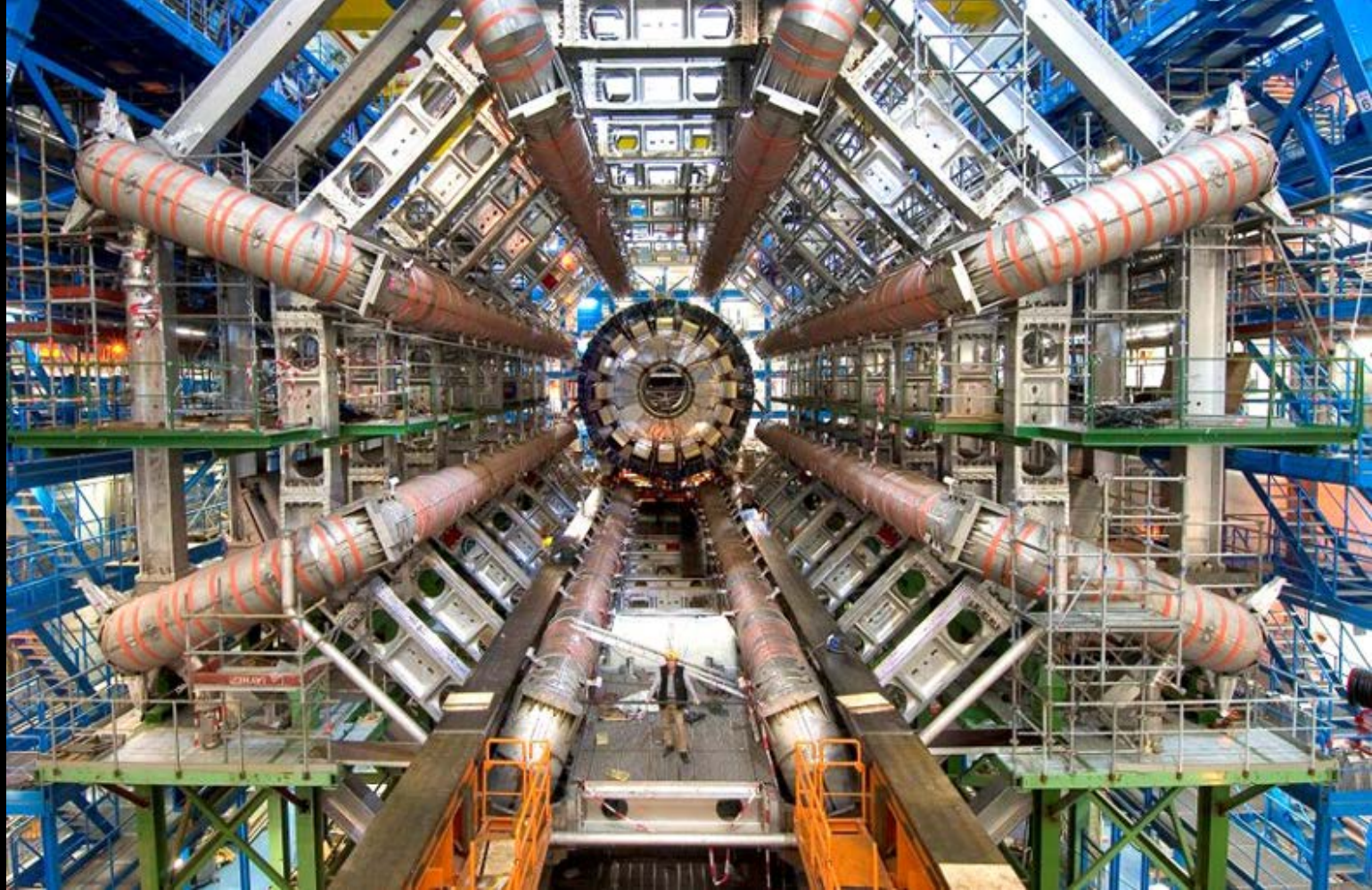
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It's not an exaggeration to say that functional MRI has revolutionized the field of neuroscience. Neuroscientists use MRI machines to pick up changes in blood flow that occur when different areas of the brain become more or less active. This allows them to noninvasively figure out which areas of the brain get used when performing different tasks, from playing economic games to reading words.

Google books







Knowledge always inscribed in & by instruments (e.g. telescopes, microscopes, calculators, computers)

What is to be done?

Data set/source criticism

- Who created the data?
- When & how was it published?
- Are there other versions?
- Is documentation on collection, curation & provenance available?
- Do similar data sets exist?
-

Tool criticism

- Who are the developers?
- Was the tool developed for a particular task?
- Is there any documentation available?
- Are there different versions, what are the differences?
- Are there similar tools?
-

'They might have been otherwise' (Bijker & Law, 1992: 3)

about four miles south-east of Cambridge, though of no great elevation, yet, being the highest in the county, command extensive prospects. The northern part of the county, including the Isle of Ely, is almost part fen land, and quite level, intersected by numerous canals and ditches, and containing many, especially like those of Holland, and steam-engines, for conveying the water from the land into channels formed for carrying it off to the sea: the inclosures are chiefly formed by ditches, and there are few trees except pollard willows. The great expanse of fen land in this district comprises nearly half of that extensive agricultural tract, called the Bedford Level, the remainder of which is situated in the counties of Norfolk, Lincoln, Northampton, and Huntingdon. From the various remains that have been discovered in constructing the channels, it is conjectured that at some remote period this country was all firm land, reduced to a marshy state by frequent inundations of the sea, and by the obstruction of the old natural outlet, at Wisbeach, of the rivers Ouse, Nene, and Granta, and of several lodes and lakes. To prevent subsequent inundations, commissions were issued, from time to time, to enforce the repair of lanes and sewers. The most important works of this kind, executed before the reign of James I. was the great channel made by Bishop Morton, which carried off the overflowings of the Nene, and furnished a water carriage from Wisbeach to Peterborough. From the reign of Henry VI. to that of James I. various commissions were granted for a general drainage; but no great progress was made. In 1630, Sir Cornelius Vermuyden, a Dutchman, agreed to undertake the work; but the owners rejected his offer, and petitioned Francis Earl of Bedford, who had a large property in the level, to undertake it, to which that nobleman assented; and a deed of agreement, the foundation of the laws by which the Bedford Level Corporation is still governed, having been made and passed at a session of sewers held at Lynn in 1631, the Earl associated with himself others, to whom he assigned shares. So rapid was the progress of the work that, in about three years, the canalised lands were drained according to the Lynn Law, and 95,000 acres were allotted to the peasant proprietors, in compensation for the trouble and expense they had incurred. However, at a session of sewers held at Huntingdon in 1639, the whole proceedings were annulled, the drainage was adjudged to be defective, and it was determined that the Earl and his associates should not settle the land that had been allotted to the peasant proprietors; but the national troubles, which intervened, rendered having frustrated the progress, and the project finally fell into decay, and continued so till the year 1640, when an ordinance was passed by the Convention Parliament, clearing all the proceedings at Huntingdon null and void; and the entire management of draining the level, in the general plan of the Lynn Law, was entrusted to the Duke of Buckingham, Earl of Bedford, son and heir of Earl Francis. This ordinance was confirmed by an act passed in 1662, by which also taxes were imposed on the 95,000 acres, for maintaining the works of the level, and this tax was further adjusted by an act of 1667. Twelve thousand acres were allotted to the crown, including 2000 acres granted by Charles I. to Vermonden, and the remainder, 75,000 acres, were reserved

in the Corporation of the Bedford Level, which, under this act, consists of a governor, six bailiffs, twenty conservators, and a commonalty consisting of all persons possessing 100 acres in the fens. The Great Level, comprising a tract of about 400,000 acres, has been from an early period divided into three districts, viz. the North Level, the Middle Level, and the South Level: the greater part of the Middle Level, and a considerable portion of the South Level, are in Cambridgeshire, including the whole of the Isle of Ely, and a few parishes to the south-east of it, and consisting of nearly 200,000 acres. The substrata of the county are, chalk, which extends through the hilly part, from Royston to Newmarket; then, a calcareous substance found in large masses, but neither so white nor so soft as chalk, chiefly abundant in the parishes of Burnell and Ischem, and much used for lime and fire-stones; gault, a stiff blue clay, prevailing in the eastern and western parts of the county; sand, which, crossing Bedfordshire, begins in this county in the parish of Gamlingay; silt, a sea sand, probably pulverized by the agitation of the waters, and found in the marsh land of several parishes in the northern extremity of the county; peat earth, extending through the whole of the fen district; and gravel. The soil is chiefly arable, and produces an abundant supply of corn, particularly in the fen district: it is estimated that about one-fourth of the fen lands actually in cultivation is sown with cereals, the plant being mostly eaten off by sheep. Hemp and flax are cultivated to a considerable extent in the parishes of Upwell, Welney, Outwell, and Wisbeach, particularly in the two first. The parishes of Chatteris, Mepal, Sutton, Swavesey, Over, Willingham, Cottenham, Rampton, Landbeach, Waterbeach, Strettham, Ely, Littleport, Soham, and Fordy, constitute the principal dairy district, a great quantity of the butter produced in which is sent to London, and there sold under the name of Cambridge butter: in the parishes of Cottenham and Willingham is made the cheese so much esteemed for its flavour, called Cottenham cheese; the parish of Soham is also celebrated for its cheese. The principal rivers are the Ouse, which is navigable in its entire course through the county; the Cam or Granta, formed by small streams that unite between Grantchester and Huntingdon, and navigable from its junction with the old lode of the Ouse near Thetford, to Cambridge; and the river Nene, also navigable: the Ouse falls into the Great Ouse at a place called Prickwillow, near the eastern border of the county, and is navigable to Bury St. Edmund's. The canals intersecting the Isle of Ely were made for the purpose of drainage, but many of them are now navigable. Vermuyden's canal, commencing at Ramsey, on the Isle near Ramsey Moor, and extends to Welch's Dyke, where it joins the Old Bedford River, and proceeding the old course of that river, breaks the county a little to the west of Welney. The New Bedford River is the main canal, passing from the Ouse to the lower parts of the Ouse. The Old Bedford River, which runs parallel with the last from Earith to Beveridge, is now seldom navigated, excepting the lower part of it, having been almost choked up since the construction of the New Bedford River. A canal from Outwell to Wisbeach was made about the end of the last century. There is also a canal from Peterborough to the Great North

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Techreport*, June 2015

Wiebe Bijker & John Law (1992) *Shaping
Technology/Building Society*, MIT Press.