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The Ontology of Keyboard Cleaning

This is my first time writing a two-page academic paper. At first, I felt a little stressed. So, I asked the editors for advice. I was surprised by their response: «You can write whatever you want.» They did send me examples but emphasised the idea of exploring. (To be fair, James Besse also said: «the goal of the position paper is to showcase your work to the network».)

As I tend to select in other people's answers the parts that are most convenient for me, my stress turned to a euphoric feeling of total freedom. «Whatever I want!!!» Each of us has a secret STS garden, a space where we keep our most forbidden ideas towards our research work. I found myself wondering about what I always secretly wanted, but not dared to do with my scientific work.

Colleagues who specialize in studies of the nuclear industry, animal experimentation, porn studies, accounting studies, or transhumanism, certainly have their own secret wishes. For me, as I have often been researching issues of computer keyboards and encodings, one thing I always secretely wanted to do is to leave my computer on while I clean the keyboard.
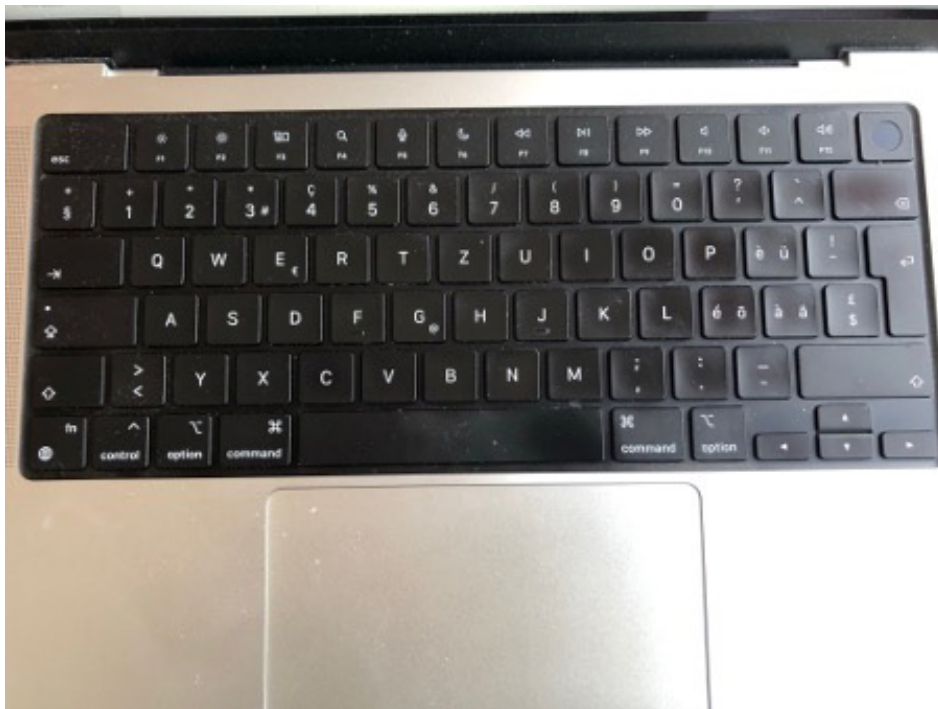
Author's keyboard (unclean), September 2022.

Under normal circumstances, as any control freak would do, I always carefully turn off my laptop to prevent it from getting out of hand. Then, I focus on cleaning every key and every inch of the screen, while paying attention to avoid the start button. I usually end up touching the latter (as it requires cleaning too), my laptop turns on, and I finish in haste while the operating system is loading. As the years go by, my computer starts up much faster, but the cleaning products have progressed as well. I can typically complete my task without too much drama.

Long story short, I finally embarked on this experiment. In order to have some sort of data set left, I opened a blank document in TextEdit and I took notes on a separate sheet of paper. Here is what I ended up with.

sdyasw4e3个晓东非常想要去去§§   i韩国v吃v个户籍警察2

q2w34er567890'^pélkjhgvcfdxb.--ä£é.àü

¨lépè'^'o0i87654-à¨

^à-l.^d

[Hand-written observations] *Spotlight launched* [I closed it]*, the screen moved to another desktop* [I moved back to the main one]*, a pop-up message appeared asking «Do you want to enable dictation?* [I closed it]*. Now, I am not sure if the keyboard is clean or not because the screen light is on and it prevents me from checking the reflections on the keys* [classic signs of grease marks that require cleaning].

A laptop user might predict that characters will appear on my screen in black on white. A user familiar with the operating system can anticipate that shortcuts will be triggered (opening Spotlight or the dictation system). A user familiar with my individualy research work on China or working habits might anticipate some personal traits (use of the right hand, my concern to avoid the start button, letters from the Swiss-French keyboard, shortcut for writing in Mandarin, shortcut for using several desktops, etc.). A user who was present at the time of the experiment might have noted the stains on certain letters and my ability, or absence thereof, to make them disappear. No one can predict the exact sequence of signs that will show up on the screen.

The issues that interest me with respect to governance by infrastructure are the following.

To what extent is the course of an action predetermined by the infrastructure that hosts it? Once the decision has been made to rub a piece of cloth on the keyboard, the number of possibilities is to some degree limited by the infrastructure. Most probably, a series of signs will be displayed on the TextEdit document. However, the exact selection and quantity is unknown, although it probably won't be more than one page.

Which elements of the infrastructure will be multiplicated in the course of the action? The result of the action often consists in the circulation of forms already present inside the infrastructure outside of it. Most probably, Roman-alphabet characters will be multiplicated, and less probably other kinds of characters. Chinese characters might show up, but not a language that has never been encoded.

How much freedom does the user have? The presence of Chinese language input function, or the Swiss-French keyboard, are related to past individual choices. My hand movements on the keyboard during the operation, such as the choice of the keys or the time of the operation, also affect the final result and make it unique. I can decide to wipe the keyboard or throw the computer through the window, but I cannot decide to re-design a new type of keyboard on the spot.

There is an abondance of literature on the issues raised above (my all-time favourite is Madeleine Akrich's seminal paper of 1987[1] on the de-scription of technical object), however no theoretical approach today is satisfactory for thinking clearly and constructively about what course of action is reproductible (if I repeat the above experiment several times, what will be the same each time?) and which part will remain elusive (what will be different each time?).

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1   Akrich, M. (1992). "The De-Scription of Technical Objects." In W. Bijker & J. Law (Eds.), Shaping technology - building society: studies in sociotechnical change (pp. 205-224). MIT Press.

I believe that the current focus on materialism (in STS and other disciplines) is pushing us in a dead end, as we end up thinking in terms of atoms and molecules, entities which cannot be created or destroyed, while most of social sciences and humanities focus on processes of creation and destruction. For instance, the above sequence of letters did not exist before I cleaned my keyboard, and it has since disappeared from my screen.

Building on classic STS frameworks (actor-network and SCOT), I have been recently interested in *new materialism*, in particular Manuel DeLanda and Karen Barad's works, which I try to connect with my own ontological attempts. My research explores the extent to which their proposals can provide a better vocabulary, and a better onto-epistemological basis, for the studies of governance by infrastructure.