27 Tuning (Afstemming) (11) The large and fast Trojan horse of AI

In conversation with Joan Greenbaum[1]
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As a counterpart to episode (8) about 'tuning' with Billy, the flesh and blood horse of Marieke, this episode is about tuning (and turning) with an artificial 'horse': artificial intelligence. It needs a short introduction. At the end of the seventies a bunch of young sociologists got access to an article in *Monthly Review* 1976: 'Division of Labor in the Computer Field' by Joan Greenbaum. The find was a combination of luck and classic research of a number of selected foreign journals in the library. That was the way to be 'internationally oriented' in those days. None of us had been on the other side of the Atlantic or had working relations with colleagues outside the Dutch and Belgian universities.
The article resonated and contributed to our own research agenda on technology, labor and organization. Its author would never have known anything about this if we hadn't met later on in the research project on computer occupations in a number of countries (a.o. Scandinavia, UK, USA, Japan).
Now, many, many years later, we have maintained a long time and long-distance friendship. Among the issues to discuss from time to time there is always the development of computer occupations, technology and labor. And the issue these days, of course, is Artificial Intelligence. And again, Joan Greenbaum writes a thought-provoking article on this subject. That article is turned into the "we"-form of preceding "Tuning" episodes. Because of shared frames of reference, we share its content. Do we even agree about the role of 'old' male philosophers?

Like in so many other publications Joan builds up her reasoning from experience in life. As a young Cobol trainee at IBM (Big Blue) in the '60s she had an opportunity to 'play' with 'Eliza'. A well-known computer program that would show the world, or at least those of us in the know, that Artificial Intelligence was an oxymoron that would never reveal intelligence or any artifice of reality. Only it didn't. It titillated. It sparked those neurons that compel us to dawdle in the personal. Joseph Weizenbaum, a professor of computer science at MIT, wrote Eliza on a bet to prove a point. Could a program mimic human speech? And would we treat it as if it were human? He said No, and went on to disprove himself, a lack of proof that exists now that AI has elbowed its way onto our screens and into our psyches.

How did we get here
Welcome a noisy cousin in the AI family—the chat bots. Ready to write essays, answer complex questions and talk to us in conversations we may never have in 'real life'. Open AI, a new tech company financed by the big guys, brought Chat-GPT into the world as if it were fully formed, out of massive accumulations of data. Massive. The stuff only dreamt of in 1968. The stuff we didn't even imagine 20 years ago when we saw people walking down the street waving their arms in 'private' conversation. Only the insane would talk like that, we thought. Then. The social cues and norms we grew up with would not hold. It's like the language of the young now on the streets and subways, peppered with 'likes', as if words and worlds have disappeared.

[1] regte061@planet.nl; www.watiknietbegrijp.nl Joan Greenbaum, 'AI Angst' (2023; the article is to be published)

"It's like um…you know, Like that time that she was like...". They 'like' as if it were a place holder for pinning down a world that is flying by too fast. Isn't it 'like' for each of us now, too? Many seemingly small steps wooed us into a potential AI universe. Prior to the hoopla of chat bots, we entered a limited world of speech recognition 'assistants', and almost two decades of social media conditioning. Alexa repeats what you say and plays the music you might have asked for, but has a limited verbal range. Siri tries for a conversational tone "would you like me to repeat that?" but entangles us only enough for our verbal head nodding -- 'yes, please'. "Likes' on frontrunner Facebook somehow translate over a digital barrier into our sociability, as do our 'friends' or the meaning of 'to friend' someone. But this is the simple stuff. The stuff of our last few decades. The tangle of virtual and real life, where we might get deep into a conversation about say, looking at a house and then have to say "oh, no, I didn't actually see it, that was just on Zillow". Have our daily cravings for digital contact weaned us away from "seeking human kindness" or even from the merits of democratic processes and public sphere? The steady drip of new apps in what was called Web 2.0, back in the beginning of this century, bustled us in this direction.

But we know how that world is built. We used to build small pieces of code—much simpler, but the basic principles apply. And then we used to teach it. Always carefully, we thought. Always with reflection. "What if we designed a program that we wanted to actually use", we'd say to an auditorium of coders and system designers. "What if our code could help people work the way they want to, using their own tacit knowledge". "What if we took feminist perspectives on constructing computer systems that build on the ways we think and act in the world rather than only on numerical models". Apparently, we didn't grasp any more than Weizenbaum did back then. We thought, naively, that if we build it together—collectively—they would come. They, in this case, meaning workers and those who use the systems (users) would join together. We called what we did cooperative or participatory design, but the version of participation the large corporate world had was far, far different.

So, how do they work

Chatbots are only a piece of what is so innocuously named 'machine learning' models. Models that act like mock-ups of *probabilities* of how words appear in sentences, and how sentences or pictures might flow from each other. The 'machine' acts as if it is 'learning'. Massive amounts of data come primarily from everything that is out there already in the digital universe. Like a giant vacuum cleaner sucking up words, sentences, essays, social media entries, and books and plugging it all into data networks called 'neural nets'--so vast they might act *as if* it were information stored in a brain. But brainy it is not. This large and fast horse of an AI only trots along assessing the *probability* of one letter following another and one word coming after another. Earlier attempts at creating AI were based on Cognitive Science models of how our brains might work, but they failed. Now though, this Large Language Model of accumulated data and modeled probabilities 'learns' more the more it is used. And there in lies an enormous warning for us. The chatbot is always learning. Galloping as it is used again and again. A Trojan horse we might be taken to believe in.

Unlike words, building the data base of visuals takes armies of very low wage workers in Sri Lanka, Vietnam and other places around the world assembling images and word pictures from

the swamp of existing imagines and words on the internet. Although now, machine learning models have even been 'taught' to identify flowers, people and all sorts picture parts.
And until now, importantly, large assemblage of well-paid programmers, coders, data scientists, etc. have been needed to develop the models, write the code and sort out the key algorithms funneling these bodies of data and visuals into predictable patterns. There was no magic here; only enormous assemblies of data, perhaps beyond what we could imagine, and probability models to spin it into new stuff.

Human language, our daily bread, is built often enough on the improbable. As our language evolves so do the stories, essays, conversations, art works and anecdotes that accumulate in machine storage. This is how AI works; it is the basis of the Large Language Model. In the '70s and 1980s data was only data and didn't turn into information until it was processed by thought and/or computer programs. The Data Processing textbooks said so. In teaching the first generations of computer programmers we also said that without good programs "Garbage In was Garbage Out"—GIGO was its name. How 20th century that all was! That dividing line between data, information and garbage was crossed this century by social and mass media when judgement was often ditched in favor of volume and the race to get there first.

Where do we stand

We are no actors in a classic tragedy. We don't wish to walk around saying we told you so, nor do we sigh, we are doomed. The building blocks that whisked us to this point—a point in transition —were as varied and perhaps as numerous as the startling events this century. New information now is assembled more easily than workers once assembled cars on the Ford built assembly line. Students assemble essays with a slice of cut and paste and a sprinkling of citations to suit their teachers. Insurance claims workers deny claims that the codes on their screens tell them to. Or indeed only the codes deny the claims, the workers have been removed. We have been conditioned to think that the more that is accumulated is the more we might know, or the faster we might decide, or the more efficient we might be.

We are innocent users. Smart phones have become an assisted living device. Those synapses firing randomly in aging brains annoy us when a face appears before us without a name to keep it company. Or when we are at a loss when a word, seemingly in our grasp, flitters away. For many of those times we are happy to have the auxiliary memory of what we call our phones—those tiny devices capable of storing and retrieving far, far more than the glass enclosed showroom of an IBM computer in the 1960s. We are pleased and we're terrified. We should be. We were there in the beginning.
The storm is upon us and so are the usual passages we've used to both astonish and terrify ourselves. A hazard of our age is remembering all the other repetitive refrains from the past sixty years: Circa 1960s: Computers and automation will take away jobs. Yes, but we were told that they will take away low wage jobs and let creative workers thrive. And so, some jobs will remain and they will be higher paid and more satisfying. Like bird song these adages still flutter in the air. Despite having been disproved again and again. Para legals do the work that lawyers once did. Billing clerks do the work that accountants once did and we do our own work clacking keys to 'portals' to look up amounts and pay directly out of our bank accounts. And we do our

own work assembling readymade wills and documents on the web. Even in health records we document our own side of recovery processes and (failing or succeeding) therapies. Computer programmers and scientists are once again being laid off as they were in the 1980s and following the great dot.com crash, when company profits soared and tech workers were considered too expensive. That was until the next big push into new models, new games, and now new bots. But that push is apparently over as Microsoft and Apple and Meta have announced they don't need so many tech workers, or at least they are gambling that like clerks and secretaries before them, they are not needed, for now. And if they are needed, they can be hired by the hour or the day—no employment contracts, no health care. AI models can continue soaking up more and more information on its own as it is programmed to vacuum hose troves and troves of information, dirty and supposedly verified, throughout the digitized world. Big machine data bases can launder and sort all the world's garbage in and out.

Our task, we think, is not to bemoan but to ask the questions that aren't put out there in this noisy hurricane of news that 'the chatbots are coming, oh the chatbots are here'. Those big tree trunks of inquiry like 'what is the role of humans now' or 'will they take away all jobs', simply won't do. They were made for earlier times when the heroic philosophers (read men) could sit in the woods perhaps and ponder[2]. And we must also beware of the grand, seemingly innocent verbs put before us with phrases such as 'with the *invention* of the internet' or 'with the *advent* of computers'. None of this came from a single majestic occurrence.

This is where we are now. We are standing on the precipice like everybody is. Professors who wring their hands at students who may cheat by using bots, instead of actively propelling their students towards the kinds of complex issues bots don't handle well are annoying us. The 'sudden' public realization that data and coding are biased by the white male world of the digital daddies who created it is frustrating. Real gritty problems lie before us: jobs *are* disappearing; bad actors are propagating data into these monster models; people are having their very identity siphoned off; banks are collapsing as their models don't reflect the world they are embedded in with rising interest rates. Democracy is ignorant—sadly a truism for many of the old timers—of how or what to regulate; and, very critically the race to form newer AIs is on with Google, Apple and Microsoft racing to catch up and hopefully surpass Open AI's swift Chat GPT-4 already out here and learning faster than a 2-year-old.

Recently over 1,000 computer scientists and big wigs who associate with them signed a letter calling for regulation and a moratorium on AI. We want to believe that this is possible. But that horse may have left the barn. Because accumulation of vast stores of data, bigger than warehouses, bigger than big box stores, bigger than valleys, are being built. Sucking up data from known and secret sources. And sucking up vaster stores of generated electricity too. Whispers on the internet rebound into more solid foundations in what is now called machine learning. And 'learn' it does, creating new information and combinations of accumulated information. We remain both enthralled and terrified. It is an unpredictable beast.

[2] Jürgen Habermas (1929) recently wrote a succession essay to his most famous book "*Strukturwandel der Öffentlichkeit*" (*The structural transformation of the public sphere*, 1962). Where did he write it?