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The Omnivorous Symbolic Order in Data Science: A Socio-Cultural Challenge

Netta Avnoon*

Department of Sociology and Anthropology, Tel Aviv University, Tel Aviv-Yafo, Israel

Description

Data science is a new profession. Data scientists are responsible for designing algorithmic systems that employ big data, machine learning and cluster computing. While it is clear that the skill-set of the data scientist must include knowledge in computing and statistical-probabilistic methods, I have argued in my recent article that unlike other tech professions, data scientists base their professional identity and status on omnivorous symbolic boundaries, rather than on a single specialty [1].

Omnivorousness is a concept developed in the sociology of culture to describe the change in the construction of social elitism in the last three decades [2]. In the past, elitism in cultural consumption was constructed through being a 'snob' and shunning practices. For example, a person would claim high status by going to the opera or to the ballet, while avoiding the consumption of country or soul music [3]. Since the 1990s cultural consumption in the West has followed a different pattern. A person will claim high status by engaging in different and diverse cultural consumption practices, such as listening to jazz, country, opera, and pop music. The omnivore thesis in the sociology of culture argues that high status is conveyed by engaging in diverse cultural practices, blurring the boundaries between 'high' and 'low', i.e., consuming both elite and popular practices. Snobbism regarding types of music, food, fashion or art is no longer the mark of the elite. Additionally, omnivorousness means frequent and intensive cultural consumption, as if there were not enough time in the day to consume all the available cultural repertoire [4].

In my article, I argued that this disposition in cultural consumption has seeped into the realm of work, and specifically high-status work. While high professional status was signalled by specialization in the past, in new professions such as data science, high professional status is signalled by a wide skill-set and the intensive acquisition of new skills [5]. Data scientists view themselves as both scientists and engineers, as knowledgeable in multiple theories and methods, as independent and frequent learners, as mixing high-level and low-level types of skills, and as proficient in knowledge domains outside data science and outside the tech industry [1]. This omnivorousness is what gives them elite status and makes them the 'unicorns' of their environment.

Several questions arise from this new symbolic order. First, how do we train data scientists? If their major skill is their ability to independently acquire new skills, how should training in data science is designed? My study showed that universities are struggling to devise the curriculum–should machine learning be taught first? Data bases? Domain knowledge? How can professors and students follow up on all the new open-source platforms, libraries, methods and programs being produced constantly online? Is computability more important than statistics? Is the math more important than the technological feasibility?

A second question relates to standardization. If breadth of knowledge is regarded as important, how can the data scientist skill-set are standardized across countries, industries, and universities? When the symbolic order is based on omnivorousness, the set of 'must have' skills probably cannot be standardized. As a result, an inherent tension of discerning the 'real' from the 'fake' data scientist is created. Different professionals may have completely different assemblages of skills, and still hold the title 'data scientist'. Recruiting then becomes a mission impossible, and numerous organizational misunderstandings are bound to ensue.

Third, omnivorousness in skills, with its frequent and intensive learning, is a source of pressure for individual workers [6]. In addition to routine work pressures, constantly learning new skills requires time and energy. Older data scientists in my study reported labouring under the burden of this implicit omnivorous demand, to keep up with the pace of innovation in the field of data science [7].

Conclusion

In conclusion, omnivorousness is a new way to construct elitism in knowledge work. While it may seem open and egalitarian, omnivorousness is actually an elitist strategy, which excludes those who specialize or learn deeply and slowly. In the field of data science, the absence of specialization gives rise to misunderstandings, hinders standardization, and puts pressure on individuals to engage in frequent learning. However, changing this symbolic order is not feasible, since professionalization, closure, and standardization have been largely rejected among the computer professions for decades. I view this socio-cultural paradox as the biggest challenge in data science.

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Conflict of Interest

Author has disclosed that he has no conflict of interest.

References

1. Avnoon, Netta. "Data Scientists' Identity Work: Omnivorous Symbolic Boundaries in Skills Acquisition." Work Employ Soc 35 (2021): 332-349.
2. Peterson, Richard A and Roger M. Kern. "Changing Highbrow Taste: From Snob To Omnivore." Am Sociol Rev 61 (1996): 900-907.
3. Bryson, Bethany. "Anything but Heavy Metal: Symbolic Exclusion and Musical Dislikes." Am Sociol Rev 61 (1996): 884-899.

***Address for Correspondence:** Netta Avnoon, Department of Sociology and Anthropology, Tel Aviv University, Tel Aviv-Yafo, Israel; E-mail: netta.avnoon@mail.huji.ac.il*

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4. Sullivan, Oriel and Tally Katz-Gerro. "The Omnivore Thesis Revisited: Voracious Cultural Consumers." Eur Sociol Rev 23 (2007): 123-137.

5. Scott, W Richard. "Lords of the Dance: Professionals as Institutional Agents." Organ Stud 29 (2008): 219-238.

6. Valdes, Gonzalo and Stephen Barley. "Be Careful What You Wish For: The Learning Imperative In Postindustrial Work." Work Occup 43 (2016): 466-501.

7. Ensmenger, Nathan L. "The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise." Cambridge: MIT Press, USA, (2012).

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