

Chomskian Scientific Writing Automation (CSWA-Algorithm)

Rodolfo Alvarez

rodolfo.alv.zm@gmail.com

Abstract

The aim of this article is showing an extension of an already existing algorithm, namely Scientific Writing Automation (SWA-Algorithm). The extension of that algorithm in this case, is what we call Chomskian Scientific Writing Automation (CSWA-Algorithm). Although no insight with semantic content was found, CSWA could develop and find some fluency in writing about science like Chomsky, just like SWA-Algorithm has done so far.

Keywords: CSWA-Algorithm, Noam Chomsky, SWA-Algorithm.

Date of Submission: 15-03-2026

Date of Acceptance: 31-03-2026

I. INTRODUCTION

Our research on algorithms aiming at making scientific writing easier, or at least the conceptual foundations of that, in the past has led us to design and develop what we call Scientific Writing Automation. After some reflection and work on this algorithm, we have been able to come up with a Chomskian version of this algorithm, namely what we call Chomskian Scientific Writing Automation or CSWA-Algorithm, aiming at performing what SWA can do but like Chomsky. In other words, we aim for an algorithm that writes like Chomsky about science. Next sections will further develop these aspects.

II. THEORETICAL FRAMEWORK

2.1 Noam Chomsky

Noam Chomsky, born on December 7 1928 in Philadelphia, US, is an American theoretical linguist. His work from the 1950s revolutionized the field of linguistics by treating language as a uniquely human and biologically-based cognitive capacity. He made major contributions to linguistics as well as cognitive psychology, the philosophy of mind and the philosophy of language (Britannica, 2026).

2.2 SWA-Algorithm

SWA-algorithm can be understood as a system of automatic writing process/product within the scientific realm (Alley, 2013; Alvarez, 2019, 2020; Brown, 2012; Chikuni & Khan, 2008; D'Alleva, 2005; MacArthur *et. al.*, 2008; Peat *et. al.*, 2013; Wingersky *et. al.*, 2008). This definition is the most suitable we have found for this research.

2.3 Linguistic structures and bits of knowledge

Many of the structures we will be using through this article, along with some bits of knowledge extracted from it, are taken from an interview with Noam Chomsky (Chomsky's Philosophy, 2014), available on the Internet. The audiovisual material just mentioned is called "Noam Chomsky - Mysteries and Problems". Additionally, some specific linguistic structures are taken from e-mail communication between Noam Chomsky and the author of this article (Noam Chomsky, personal communication, April 16, 2009).

III. DISCUSSION

3.1 General considerations and deductions

There is a potential combination between SWA-Algorithm and a Chomskian style of writing, what we call CSWA or CSWA-Algorithm (Chomskian Scientific Writing Automation) (Alley, 2013; Alvarez, 2019, 2020; Britannica, 2026; Brown, 2012; Chikuni & Khan, 2008; Chomsky's Philosophy, 2014; D'Alleva, 2005;

MacArthur *et. al.*, 2008; Noam Chomsky, personal communication, April 16, 2009; Peat *et. al.*, 2013; Wingersky *et. al.*, 2008). We aim for an algorithm that, allows the ability of writing “like Chomsky” in a way that may be conceived of as automatic, machine-like and spontaneous.

Hoping our efforts prove successful after the conception of these ideas, we can conceive of SWA-Algorithm as an early stage of CSWA; then our main goal is proving that hypothesis true. As mentioned in earlier research of this kind, at this point it is quite likely, that now is the time to let CSWA machine work on its own, so as to check what this algorithm can yield in its own terms. Now, as CSWA starts to operate, we can realize while it is at work, that it has a computational component —as obvious as this may look like at first, it has to be acknowledged. This theoretical effort aims for and points to, gaining an understanding on the computational nature of this linguistic algorithm. We aim for getting new insights on this topic through next lines.

First, one may wonder about the nature of CSWA itself. One way or the other, one may come up with an idea, a conclusion or simply an alternative to the whole theory; or we can simply discard those ideas not useful to our theory, keep those useful and move on. In a way CSWA can be conceived of as, or may be, a subsystem of SWA. The specific underlying system of explanation for an idea of this kind, is hard to conceive of; however, we may add something useful to this topic of inquiry. To be precise, the computational system of CSWA is, in fact, independent from those computations coming from SWA, at least partially or once the transition from SWA to CSWA has been made.

From now on, it does not matter what we can conceive of anymore. To gain an understanding of what CSWA really can do, we have to let it generate ideas about itself, as a potential subsystem of SWA.

3.2 CSWA applied to CSWA

There is a conceptual distinction between CSWA and SWA (Alley, 2013; Alvarez, 2019, 2020; Britannica, 2026; Brown, 2012; Chikuni & Khan, 2008; Chomsky’s Philosophy, 2014; D’Alleva, 2005; MacArthur *et. al.*, 2008; Noam Chomsky, personal communication, April 16, 2009; Peat *et. al.*, 2013; Wingersky *et. al.*, 2008). However, not just conceptual since maybe there is an empirical aspect within that distinction. That leads to the question of algorithm identification; it is an open question. Next question we can conceive of, is how CSWA can be applied to itself. However, we do not have a conception of it, and therefore it may be a mystery. If it is not a mystery, then it may be an empirical question to be discovered, by finding out how CSWA can be applied to itself (Alley, 2013; Alvarez, 2019, 2020; Britannica, 2026; Brown, 2012; Chikuni & Khan, 2008; Chomsky’s Philosophy, 2014; D’Alleva, 2005; MacArthur *et. al.*, 2008; Noam Chomsky, personal communication, April 16, 2009; Peat *et. al.*, 2013; Wingersky *et. al.*, 2008).

Then there is the question of how we can conceive of an idea of this kind, namely discover or trying to discover how this puzzling algorithm works, instead of being mystified by “I can be Chomsky by writing on my keyboard” but we are not course. But those are two separate issues and we may as well be missing the point. There is an empirical question, of how CSWA works, and there is the mystery of not being able to discover how CSWA works, if that is the case after all (Alley, 2013; Alvarez, 2019, 2020; Britannica, 2026; Brown, 2012; Chikuni & Khan, 2008; Chomsky’s Philosophy, 2014; D’Alleva, 2005; MacArthur *et. al.*, 2008; Noam Chomsky, personal communication, April 16, 2009; Peat *et. al.*, 2013; Wingersky *et. al.*, 2008).

However, at this point, it does not seem likely we can go any further on the functioning of CSWA, since the line of reasoning seems to go in circles. Maybe, there is no solution to the quest of this article, at least for now. However, if not in terms of meaning, it is certain we have found some useful fluency in terms of finding a Chomskian style for writing about science, an algorithm roughly speaking. It does not really matter, at least right now, if we have not found explicit information about how CSWA really works. As we have said, there is an empirical question to be solved. Hopefully, future research will shed more light on this. However, only time will tell if our efforts prove successful (Alley, 2013; Alvarez, 2019, 2020; Britannica, 2026; Brown, 2012; Chikuni & Khan, 2008; Chomsky’s Philosophy, 2014; D’Alleva, 2005; MacArthur *et. al.*, 2008; Noam Chomsky, personal communication, April 16, 2009; Peat *et. al.*, 2013; Wingersky *et. al.*, 2008).

IV. CONCLUSION

Through this article, we showed an extension of the existing algorithm SWA, in this case Chomskian Scientific Writing Automation, or CSWA-Algorithm. Rather than finding new insights on the matter at hand, the usefulness of this research relies on the fact that, through this article we have been able to find fluency and development in writing like Chomsky, which was the main implicit goal of this research. Hopefully, new

research on the matter at hand will come up, thus providing new insights on this algorithm. Only time will tell if that actually happens.

REFERENCES

- [1]. Alley, M. (2013). "The craft of scientific writing". New York: Springer Science and Business Media, pp. 1 – 15.
- [2]. Alvarez, R. (2019). "Scientific Writing Automation" *International Journal of Scientific and Engineering Research* /Vol. 10, No. 7, pp. 1094 – 1095.
- [3]. Alvarez, R. (2020). "Scientific Writing Automation applied to Prayer/"Prayer" Duality" *International Journal of Scientific and Engineering Research* /Vol. 11, No. 12, pp. 365 – 366.
- [4]. Brown, T. (2012). "Mathematics education and language: interpreting hermeneutics and post-structuralism". New York: Springer Science and Business Media, p. 217.
- [5]. Chikuni, E. and Khan, M. (2008). "Concise higher electrical engineering". Cape Town: Juta and Company Ltd, p. 544.
- [6]. Chomsky's Philosophy. (2014, October 18). *Noam Chomsky - Mysteries and Problems* [Video]. Youtube. https://www.youtube.com/watch?v=G8G2QUK_1Wg&t=2s
- [7]. D'Alleva, A. (2005). "Methods and theories of art history". London: Lawrence King Publishing, p.169.
- [8]. Encyclopedia Britannica (2026). "Noam Chomsky" <https://www.britannica.com/search?query=noam+chomsky>
- [9]. MacArthur, C., Graham, S., and Fitzgerald, J. (2008). "Handbook of writing research". New York: Gilford Publications, p. 351.
- [10]. Peat, J., Elliott, E., Baur, L. and Keena, V. (2013). "Scientific writing: easy when you know how". Hoboken: John Wiley & Sons, p. 5.
- [11]. Wingersky, J., Boerner, J., and Holguin-Balogh, D. (2008). "Writing paragraphs and essays: integrating reading, writing, and grammar skills. Boston: Cengage Learning, p. 3.