Dialogue Social Science Review (DSSR)
www.journalforeducationalresearch.online

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 2 No. 4 (November) (2024)

The role of Technology in Education: Challenges and Opportunities

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Abstract
The goal of this paper is to further the ongoing discussion on integrating technology into the classroom. To accomplish this objective, technology will be utilized to demonstrate how technology is essential to education in the modern world via blended learning and online education. Some contend that technology should be seen as a medium that influences culture rather than just a tool. Therefore, ongoing meditation on the distinguishable qualities of technology as a medium that is neither value-neutral nor a disembedded force should go hand in hand with the integration of technology into education. Technology, on the opposite side, is deeply embedded in society and may be directly connected to other social processes and advancements. Consequently, the purpose of this article is to demonstrate the social embeddedness of technology by focussing on the ways in which technology is intertwined with other social phenomena, such as the economy. It is important to take into consideration the characteristics of technology as a medium in order to make the most responsible and efficient use of it in the educational setting. In the framework of the discussion regarding technology as a socially integrated medium, the potential challenges and opportunities that technology brings as a medium for education are acknowledged and investigated on a regular basis. A particular emphasis is placed on the possible benefits that educational technology might provide to theological education institutions.
Keywords: Technology, Education, Challenges

Dialogue Social Science Review (DSSR)
www.journalforeducationalresearch.online

ISSN Online: 3007-3154
ISSN Print: 3007-3146

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Introduction

Technology has a variety of effects on education, as seen by the continuous discussion on the subject. As a result, this article will list some difficulties as well as advantages that come with incorporating technology into the classroom. We may avoid overvaluing or undervaluing technology in education by considering both the potential and problems it presents in a learning environment. The article's main goal is to demonstrate how complicated technology is as a medium. To incorporate technology successfully and responsibly into high-quality education, it is essential to comprehend its complexity.

The first part outlines a discussion of technology's social embeddedness as one of its notable features, building on the claim that technology is a means that is affecting culture today rather than a tool. The following issues will be discussed in light of that conversation: the commercialisation of education and information, and the role that technology plays as the primary catalyst for this process. To analyse the potential effects on education, the complexity of technology is presented. Due to the fact that the outcomes of using technology in the classroom vary depending on the context, special attention is paid to the before going on to the possibilities that technology brings, with special reference to theological education, we will first discuss the repercussions that have occurred in the setting of South Africa.

Technology's characteristics as a socially constructed platform

According to Ascough (2002), "awareness of the limitations and opportunities of the means of education is necessary for a good education." To put it another way, before creating an educational environment, it is necessary to comprehend the nature of the medium. Consistent with this notion of medium comprehension, Hess (2002:30) argues that the subject of how to use a basic tool should not be the exclusive focus of education and technology research. Instead, it ought to include a number of cultural enquiries. It is believed that technology serves as a vehicle for creating meaning (Hess 2002:32). Despite our propensity to conceive of technology as tangible things represented by gadgets like computers, phones, and cars, Drees (2002) warns that technology may be beyond that and highlights certain aspects of it. Since no technology could operate without infra-structure, such as transmitters and receivers, it is considered a fundamental component of technology. Another social structure that refers to businesses that provide certain services is technology. Skills are another element that is as important as hardware. The phrase "technology as attitude" refers to a proactive way of thinking that examines problems to find practical answers.

Finally, since technology is also a culture, it encompasses much more than the previously listed characteristics (Drees 2002:600). Since it discusses the intricate process of technology reflecting who we are (identification), our goals (which direct our behaviours), and our values (which include our hopes and dreams), an understanding of technology as culture is more comprehensive than the other elements. Therefore, Drees (2002:603) draws a useful difference between technology as culture, which includes the interplay among technology and broader culture, and technology as design, which concentrates on the work of technical experts. Significant technological advancements are interwoven with and a component of other societal changes. As a result, it is important to consider the connection between economic and technical growth. Technology is not only

ISSN Online: 3007-3154
ISSN Print: 3007-3146

about invention; it's also about being adopted by a critical mass of people. It co-evolves with economic, cultural, political, and other realms, all of which continuously influence and are influenced by one another, according to Allenby & Sarewitz (2011). Therefore, technology is more than simply tools or infrastructure that may be used anyway it is deemed appropriate. It calls for a new moral compass and social compact that dictates to a community what is significant and worthwhile (Saravanamuthu 2002:79). Since technology mediates communication and information, it is highly valued and alternatives are almost unimaginable. Advanced and complex technology advancements are plotted within the framework of trans-humanism by Allenby and Sarewitz (2011:3). "The goals of transhumanism are all-encompassing, including not just health and longevity but also significantly improved intellect, creative capacity, and emotional capacities as well.," they contend, interpreting the transhuman discourse as merely another form of technological optimism (Allenby and Sarewitz 2011:8).

They also caution that we are becoming more and more oblivious to the technologically driven world we are building. "There is a lack of comprehension among individuals about technology and the complexity that it generates.," is how they phrase the problem. Allenby and Sarewitz distinguish at least three layers in an effort to provide a sense of the intricacy of technology and its social embeddedness (2011:37–38). Technology's immediate efficacy and functioning are referred to as the first level. Thus, it signifies to the assistance of technology to do a certain purpose, often with great reliability—for instance, an aeroplane that can carry you over long distances.

The pricing system, the ineffective boarding and security procedures, and delays are examples of Level 2 system complexity, which often include irrationality and dysfunction. Even though plane tickets are expensive, airlines often go bankrupt. Thus, Level 2 has a lot of unpredictable unexpected outcomes.

However, Level 3 encompasses a phenomenon known as "technology lock up," which happens when the culture and economy unite with technological systems behind a certain method of accomplishing a task. These levels are an effort to show the many levels on which technology functions, as well as the dependencies on further types of technology and the policies of social economics. It is not said that these levels are necessarily evident and unambiguous. Thus, it is evident that technologies are entangled with various social and cultural systems rather than functioning alone.

Given the significance of comprehending technology as a medium, particularly in the perspective of education, the debate that follows will focus on specified traits and viewpoints about technology. Utilising technology is linked to the notion of being current and trying to adapt to a culture and global environment that are changing quickly.

The most frequently accepted justifications for universities' involvement in e-learning, or online learning, are cost-effectiveness, flexibility, and expanding access (Söderström et al. 2012:2).

Since educational technologies primarily aid the educational process, technological advancement is therefore identified as the most crucial element in the establishment and growth of distant, online, and blended learning. According to Verene (2013), there is no turning back for technology. but rather offers a brighter future since it can make everything we want to achieve easier. He refers

Dialogue Social Science Review (DSSR)
www.journalforeducationalresearch.online

ISSN Online: 3007-3154
ISSN Print: 3007-3146

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to this as the "technological bluff," which gives the idea that almost everything is made feasible by technology. It will just take time.

This positive outlook on technology, which is supported by the idea that it is beneficial and essential, generates the constant demand for its usage. Chau (2010) drew inspiration for her analysis of the optimistic outlook on technology from Postman's seminal work (1992). "Those individuals who are most at ease in Technopoly are those who are fully persuaded that technological advancement is the pinnacle of human accomplishment and the means by which our most deep problems may be resolved.," Postman said of the utopian vision of technology. Additionally, they think that knowledge is a pure gift that promotes greater freedom, creativity, and mental tranquilly via its unrestrained and ongoing creation and distribution. (page 71)

Certain presumptions and even attitudes about technology are deemed significant for this debate in order to outline its rapid growth and the growing need of using it especially in education. These presumptions about students include the notion that in-person instruction can be reproduced online and that they are naturally motivated enough to study alone and at their own pace. "Whatever can be performed in a conventional classroom setting may also be completed via the use of technological means, according to the guiding concept," as Verene (2013) states. He contends, however, that although technology may be used to retain information, knowledge construction—and particularly lectures—cannot be duplicated online. According to him, a lecture is a live performance in which a speaker thinks while the audience thinks with them by taking notes and asking questions (Verene 2013). The rhetorical presentation of an in-person lecture is absent from online learning. Rather, online learning decontextualises knowledge to make it seem universal and treats students as customers and consumers of information that is accessible everywhere (Verene 2013). He distinguishes between "technical phenomena" and "the technical operation." The term "technical operation" describes technology as a potentially useful instrument, but the term "technical phenomena" describes how technology influences human thoughts and behaviours. The technological phenomena suggest that it includes our aspirations and future vision. It indicates that our ambitions and expectations are based on what technology is capable of (Verene 2013:303). Generally speaking, it seems that the benefits of technology-enabled online learning are overstated, with little regard for the costs involved (Sinclaire 1998).

The commercialisation of education and the acquisition of knowledge

A variety of terms might be used to define the intricate phenomena of the commercialisation of knowledge. I do not pretend to provide a definitive and comprehensive grasp of it because of this. "In the pursuit of business, academic institutions sell the knowledge of their researchers and the findings of their investigations in order to generate revenue." is how Radder (2010) defines commodification, which I found to be useful in identifying it with commercialisation. Additionally, academic commodification is a component of and profoundly ingrained in other social trends rather than existing independently of them. Furthermore, academic commodification suggests that economic standards are primarily used to understand and evaluate academic endeavours and their outcomes.

According to Radder (2010:6), less government financing made way for patents

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www.journalforeducationalresearch.online

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ISSN Print: 3007-3146

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as a tool to commercialise research, which became commonplace in fields like biomedical science. Contract research is one example of how research will become commodified in the social sciences. As a result of these techniques becoming standard in universities, they will be subject to less and less criticism and inquiry. As a result, education will become more focused on the market in comparison to the citizen (Radder 2010).

"Numerous educational methods contribute to the dissemination of the neoliberal fantasy of power, commercialisation, and profit making.," according to Amory (2012:42). According to him, it suggests that market methods and concepts are incorporated into educational institutions. Furthermore, one of Amory's (2012) primary criticisms of the present educational system, which heavily relies on technology, is that these neo-liberal agendas are instructional in nature. Teaching, learning, and evaluation methods have not necessarily altered despite the fast advancement of technology. The article will discuss blended learning and online education as two examples of in what way technology is used in higher education.

Technology-primarily enabled online learning turns into a long-term strategy for higher education instruction to remain in a competitive market and uncertain future, leading to training centres rather than learning locations (Chau 2010). Online education is not always appreciated in the same manner as residential training, despite the fact that it is often seen as the solution for offering access and flexibility in education (Chau 2010:18). In order to illustrate this trend, Chau (2010:19) cites a poll conducted by Adams and DeFleur (2006), which revealed that employers choose candidates with conventional training over those with an online degree. The fact that schools are less inclined to admit applicants with an online degree into their degree programs was an even more unexpected discovery.

An increasing number of residential institutions are using blended learning as their educational approach. A combination of in-person classroom instruction with online technology-based learning activities is known as blended learning (Zhonggen 2015:1). But for both students and teachers, this mix of online and in-class activities is more complicated than it may seem. This combination is predicated on the successful or efficient integration of teaching and learning to improve in-person instruction and achieve learning objectives. The efficacy of blended learning as an educational paradigm depends on a number of elements, including the learning environment, student demographics, the institution's purpose, faculty response, resource availability, etc. The resistance to change at the institutional level is one of the main obstacles to the successful adoption of blended learning as an educational paradigm (Zhonggen 2015). Regardless of its widespread use, unified learning still has some unavoidable drawbacks, such as institutions' resistance to making significant changes. Furthermore, because there seems to be no link between this educational paradigm and students' performance or perseverance, blended learning may result in time and financial losses. Another issue is the passive involvement of students (Zhonggen 2015:13). Amory (2012) takes an even harsher stance against blended learning, claiming that it is a way to recover face and recoup money that has been foolishly spent on a compromise stance. "The strategy is to carry over previous methods into the future although claiming to welcome change" (Amory 2012). In this method, technology serves as the learning object rather than a tool to aid in the creation of

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knowledge.

The monetisation of education as a result of technology

Today, terms like "knowledge economy" and "information economy" are commonplace and highlight the relationship between the economy and education. Understanding the motivations underlying technical advancements and their application to capitalist ideology is one method to explain this link. A knowledge-based economy is one that "... depends mostly on the use of technology and the utilisation of concepts rather than physical skills.," according to a World Bank study (2003:1). This research makes the case for lifelong learning since the knowledge-based economy depends heavily on the rapidly shifting need for skilled labour. This implies that in order to participate actively in a competitive, global knowledge-based economy, one must continue to study and grow. Technology adoption is closely related to labour force education as the use of technology is a fundamental component of education in such an economy. Therefore, as part of the knowledge economy, society depends on technology as well as the production and dissemination of information.

In poor nations like South Africa, in particular, the constraints posed by a knowledge-based economy are described as "... the difficult task of resolving the historical problems of equality, quality, and access while advancing a system of lifelong learning" (World Bank 2003). One of the difficulties in a developing nation like South Africa is access to technology and technical knowledge. Regarding individuals who have access to technology and technical abilities and those who do not, these difficulties are sometimes referred to as the "digital divide" (Cloete 2015:147). Chau (2010:186) cautions that the trend towards online learning, for instance, where technology serves as the foundation, obscures the fact that not everyone has access to or the know-how to utilise technology, and as a result, they would not gain from it.

Additionally, Lelliot et al. (2001:2) caution that Africa faces an inevitable predicament as a result of the social embeddedness of technology. Africa will not be able to participate in global growth without modern technology, but having access to it "will result in new hazards and forms of exclusion.." Furthermore, it affects distributive justice since funds spent on infrastructure to ensure technology usage are diverted from meeting people's fundamental necessities, such as housing, food, healthcare, and education. Despite the widespread belief that technology would upgrade the world and people's lives, South Africa and the rest of Africa lack enough evidence to support this claim. Therefore, even if it is hard to comprehend or accept, particularly when the positive perspective of technology is the dominant one, the drive for technological growth in these situations might result in even greater poverty and marginalisation. "According to Lelliot et al., (2001:4) "an opportunity is empty where people lack the capacities to exercise it" .

Some people consider the learning society promise—which was largely made possible by technology—to be a fantasy because "The concept of learning itself lacks theocracy.." Elliot and colleagues (2001). Unavoidable problems with information and communication technology (ICT) confront learning societies, particularly in Africa. Technology usage may result in new hazards and forms of exclusion due to the lack of access and stable framework required for its utilisation. Additionally, the use of ICT in education is predicated on the assumption that essential education is of a high calibre, which is not the case, for

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instance, in many African nations at the moment (Lelliot et al. 2001). According to Wilkinson, Wilkinson, and Nel (2001), this kind of education is unlikely to satisfy the needs of this nation, even if South African higher education institutions are investing heavily in the development of new online education programs. (page 135)

While a significant portion of the population lacks access, those that have may lack adequate infrastructure and networks. Both students and professors must be computer literate, numerate, and traditionally literate in addition to having physical access and epistemic access.

Martin (2007) poses the issue of whether online education serves the interests of the state or is a sound pedagogy. He also significantly adds to the expanding critical conversation on ICT in higher education by attempting to answer this topic. He contends that, in contrast to the more widely held belief, Technology in education has the potential to increase expenses, limit access, and make education a commodity largely under the control of global capitalist corporations. that want to maximise profits (Martin 2007:479). He comes to the conclusion that those who stand to gain from selling the technology to colleges and further institutions are the ones who are most eager to employ it, since there is no concrete evidence that using ICT in the classroom promotes effective teaching. Additionally, university budgets for hiring new employees are becoming smaller even if more money is being spent on technology.

This can result in a scenario where funding for university ICT programs is allocated more to software and infrastructure than to staff and student development. As a result, universities must come up with new methods to pay for research and instruction, and raising tuition is one way to do so: The outcome is that students must buy gear and software to access instructional ICT, take out loans to cover increased tuition, and just be in charge of their own education. Martin 2007.

According to Keengwe and Georguna (2013), Millennials, the generation now enrolled in colleges, may have requirements that might be satisfied by incorporating technology into the classroom. They characterise this generation's traits as having advanced information technology knowledge and abilities, seeking to collaborate in groups, and wanting to create their own learning materials and procedures. However, they are wary of instrumentalist interpretations and applications of technology, which see it as a means to a goal. Instead of driving instruction, technology should be incorporated into the curriculum rather than the other way around. "Good instruction cannot be replaced by technology" (Keengwe & Georguna 2013:57).

I want to draw attention to the ways that technology usage might change the roles that students, teachers, and eventually the institution play. A shift in pedagogical reasoning is ultimately implied by the use of technology in education, which redefines what teachers do (Söderström et al. 2012:2).

In an environment where information and learning are becoming more and more commodified, Nel (2008:97) discusses how the student's position as a client and consumer is evolving. He goes on to say that this process reduces knowledge and learning to meet the priorities and demands of the market. Making money is closely related to and maybe the most significant of these lofty goals, making knowledge acquisition a secondary concern. Nel (2008:98) also highlights how university job titles, such as program managers and school directors, are similar

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to those in the corporate sector.

Chau (2010:181) contends that the corporate sector can take education and society because of the deterministic perspective of technology. Instead of being in the business of teaching, higher education institutions now operate in the education industry, where critical thinking is not always the main focus. Additionally, this shift in the emphasis of education and the way colleges operate will result in professionals that are more focused on business than the public interest: As a result, education will no longer be about learning but rather achieving financial objectives established by "experts," many of whom behave more like business executives than teachers. Chau (2010), pp. 181–182. The distinctions between the corporate and higher education sectors are becoming more hazy as a result of the growing collaboration between universities and the business community.

Education has always been accessible to industry, but its purpose extends well beyond information creation; it also helps students become critically aware citizens. The influence that education has on students' identities and ideals is equally significant. To put it simply, education need to significantly impact pupils' being functions in addition to their doing functions.

The chances that technology presents, particularly for theological education, will be discussed in the next section. In addition to the difficulties mentioned in the previous debate, there are also new opportunities that should be investigated.

Opportunities presented by incorporating technology into the classroom, particularly in relation to theological education

The introduction of technology into the classroom has undoubtedly benefited education by encouraging much-needed in-depth conversations and forcing educators to reconsider their educational approaches (Ascough 2004:28). The complexity of technology as a socially embedded medium and the problems it presents for society at large, and for education in particular, were covered in the first section. The first reason for the emphasis on theological education is my personal experience with theological training; the second is that South Africans are very religious, and as a result, the government and society rely heavily on ordained ministers to guide churches to meaningful engagement in society (Naidoo 2015). This suggests that in order to assist churches and society at large, theological education is essential.

Since educational institutions cannot overlook the potential benefits of educational technologies, time and resources should be allocated to staff training on how to use them in a pedagogically sound way. Research on the use of technology in theology education at Unisa was conducted by Olivier (2014:2–3). She contextualises technological advancement within the context of a revolution and provides a succinct explanation of revolution as a process marked by stress, uncertainty, discomfort, and the need for adaptation. Therefore, in order to have altered educational methods, it is crucial to have a willingness to adapt and be adaptable. Research on how to employ technology in a pedagogically feasible way and ongoing training for staff and students are essential components of this commitment to adapt to a changing educational environment.

Theology accepted the challenge of using the printing press, and it should do the same with the new technology, claims Olivier (2014:3). The media that has been used throughout the millennia has a direct bearing on the theological influence. Thus, there is a pressing necessity to use technology, particularly in the field of

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www.journalforeducationalresearch.online

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theological education. It is nevertheless notable to bring religion, in particular, to the forefront of society and education today, even though her ideas seem to primarily operate within an instrumentalist conception of technology. In addition to expanding the theological audience, educational technologies have the potential to improve interdenominational, intercultural, international, and multidisciplinary theological education (Olivier 2014:4). Reflective practices may also be made possible by the interactive nature of educational technology.

In any learning process, reflection is essential. In order for students to be change agents, reflection necessitates a link to prior learning and discussion with other viewpoints (Baporikar 2016:15). "A person who alters the traditional or conventional way of handling and thinking about an issue through their presence and/or thought processes is a change agent" (Olivier 2013:2).

Ascough (2002:19) and Delmater (2004:137) both note that online learning encourages more engagement. While introverts struggle to engage, classroom-based education often offers a platform for extroverts to do so, making it challenging to assign participation points. However, online learning offers a platform where all, often under-represented, views may be heard, which encourages student involvement and collaborative learning. Because of the flexible nature of online learning, where time and location do not restrict communication, students must assume more responsibility for their own education, and ongoing engagement is more common than unusual (Kerr 2005:1–1012). Online education might be conceptualised and designed in a manner that improves student involvement, according to research by Olivier (2013:5). According to student response, the course helps students integrate their beliefs into their daily lives and raises their awareness of their civic duties. The interactional features of technology may aid in the development of critical abilities in pupils, such as self-monitoring and self-organization and the ability to co-produce knowledge. Additionally, their active involvement in the educational process may foster an environment where teaching and learning are enjoyable, which is not often connected to learning (Olivier 2014:5).

One of the main difficulties with online learning seems to be disembodiment, particularly in theological education (Cloete 2015; Delmater 2004). However, Delmater et al. (2007) provide a more complex interpretation of embodiment that challenges the notion that the only genuine kind of embodiment is bodily presence. They first support their claim that online learning has the potential to foster experiences among students and teachers, and more significantly, involving students that extend beyond the confines of the classroom. Second, they contend that there are several and more challenging types of distance relating students and teachers, such as historical, gender, and cultural distance. Even when it comes to traditional forms of classroom instruction, these types of distance are often disregarded and underestimated. Online education, according to Ascough (2002:19), alters the dynamics around concerns of gender, race, and class and may lessen prejudice and discrimination.

Finally, a theological anthropology of spirit-soul unity that precludes a separate conception of body and soul is put out by Delmater et al. (2004:137). As a result, one may argue that the issues raised by educational technology also have the capacity to call into question our theological presumptions about people and how they exist in the world. A more comprehensive definition of social presence is also supported by research by Kim, Song, and Luo (2016), particularly in relation

to online learning. Social presence may be defined in a variety of ways; but, in a nutshell, it can be defined as the awareness of the other person while they are engaging with you. The term "social presence" refers to the presence of another person or persons, even if they are not physically present in the same location, in a context that is mediated by technology, which not only enables but also mediates the interaction between the individuals. According to Kim et al. (2016:674), social presence is a multidimensional concept that encompasses co-presence in addition to presence as psychological involvement. Technology has the potential to overcome the gap that often separates theory from reality by enabling constant communication. The division between academic training and the ecclesiastical environment is often the root cause of this conflict. Church leaders should participate in online discussions with students, fostering a range of viewpoints and reducing the disconnect among practice and theory (Litchfield 1999).

According to Bauman et al. (2014), Internet provides chances for profound interaction, self-expression, and self-representation, all of which may contribute to spirituality in a global setting. Students' objectives are often to establish their own opinions and values, even if the purpose of education is frequently to help them acquire critical thinking skills. Theological education is in a good position to foster meaningful interaction with students of other faiths by using the technology skills of theological students. Today's religious leaders must be able to communicate in a multireligious setting. Students may find it difficult to learn how to make judgements about what to read and how to creatively construct their own ideas due to the abundance of information and viewpoints they encounter online. Students are faced with the task of making informed decisions from a growing amount of data, since making choices is not only feasible but also the norm (Bauman et al. 2014:11; Kerr 2005:1012).

Conclusion

Known as the fourth revolution, technology is a necessary component of 20th-century life and presents both possibilities and problems. The article's main goal is to demonstrate how intricate technology is when incorporated with other societal advancements. Technology has the capacity to include and exclude since it is structural in nature. Therefore, technology is seen as more than just useful devices; it also suggests a way of looking at the world. The post made an effort to demonstrate that although technology offers many potential in education, it also creates a number of difficulties. The characteristics of technology and socially embedded media are closely related to these possibilities and difficulties. The paper explored the consequences of incorporating technology into the classroom for the South African setting in general and theological education in particular.

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