



Artificial Intelligence Learning Platform for Promoting Speaking Competence: A Suggested Scaffolding for Autonomous Learning in *Pesantren*

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Abstract. Language functions as a means of communication. In order to communicate well, higher education learners need to acquire speaking competence in a foreign language. Nevertheless, due to the limited time during the process of teaching and learning of foreign language, students cannot get a chance to practice speaking well. They need extra time to practice speaking in order to improve their proficiency. Students in higher education *pesantren* based are already able to learn autonomously. With the development of technology nowadays, there have been many artificial intelligence learning platforms that can be used by students in higher education autonomously, synchronously, or asynchronously. Each of the learning platforms has its own feature and objective. The selection of it needs to be done appropriately in order to meet learner needs. This study aims to describe and suggest an artificial learning platform that can be used by students in higher education to improve their speaking competence based on theoretical references. This is the theoretical review of promoting speaking competence through autonomous learning by the use of an artificial intelligence learning platform.

Keywords: Artificial Intelligence, Learning Platform, Speaking Competence, Autonomous Learning.

1 Introduction

The rapid growth & massive use of technology in the education field cannot be avoided anymore. The utilization and demand are getting higher in order to solve some problems that arise in higher education. The emergence of massive demand has been started in the pandemic era which forces both the teacher and the student to be creative in utilizing technology in order to avoid boredom. As a result, there have been many artificial intelligence being integrated with the English learning platform. The use of digital tools for teaching and learning is referred to as the “Platform of digital learning” [1].

In some of the countries in which English is a foreign language, exposure to authentic English is truly needed and in demand. The artificial intelligence learning platform come up as the answer to that problem faced by society especially higher education institutions. On the other hand, a pressing issue in the realm of English teaching and learning is how to properly integrate AI with English teaching and develop compound abilities for society [2]. Therefore, Learning English should be made as natural as possible, exposure to a learning platform that acts as native-like will be really helpful.

Likewise, the use of an artificial intelligence learning platform requires the students to be autonomous learners in which they need to be able to set up the goal in the beginning, select the learning platform, plan, manage their time, and be consistent in acquiring language in order to be a successful learner. The autonomous learning skill cannot be regarded as inborn innate but it should be introduced, trained, and regularly utilized in daily life. Similarly, we need to consider some factors in selecting the application that will be used; [3]the most important element is the content of the application itself. Its diversity, vocabulary, and end-use in everyday life indicate whether the application is useful or just a supporting tool for practicing the language, but not learning it. Therefore, Autonomous learning will also affect and support the learners for the whole of their life for being successful in the future.

Meanwhile, in higher education, the process of teaching and learning in the classroom is limited in time. Students in higher education need more time to practice their speaking in order to improve their English proficiency. Nowadays, the development of technology has undergone very rapidly. With the emergence of the Internet and the concomitant rise of English as a lingua franca, the language has come to have a new functional role in the everyday lives of non-native English users all over the world [4]. There has been many artificial intelligence learning platform to help the learner learn the language.

These three aspects of artificial intelligence-enhanced education are the utilization of big data processing, IT education for instance implementation of IT into educational processes with AI aspects and the last is personalized learning that is based on constructed learner profile [5]. The educational platform can also be accessed by using a mobile phone. There are thousands of learning applications that can be accessed. The user can select their need. It is important to highlight the importance of the implementation and utilization, otherwise, the education cannot be competitive enough and the language education will lose its sustainability in the global world. This issue needs our attention and IT companies should use this as an opportunity. Higher education institutions should be ready to help with the development of AI enabled devices and apps so that they can be used in their educational processes [5].

Despite their validity and proven effectiveness, traditional teaching approaches are currently being avoided by educational and instructional institutions in favor of more effective ones that can enhance student learning and intellectual development. According to educational tools, computer technology has significantly improved, enabling the creation of new instructional approaches. The use of ICTs in teaching methodologies has been a recent effort by educational institutions of all levels to advance by enhancing the teaching-learning processes[6]. On the other hand, although AI-assisted EFL app development has advanced, we still need to regularly assess the cost-effectiveness of

those mobile applications over time, while also looking at various ideas and determining how teachers and students perceive them [7].

This article is proposed by using literature research methodology. All of the theoretical views discussed in this paper deserve attention from autonomy and AI theorists and language teachers [8]. The general purpose was to add new ideas to the discussion of the intersection of autonomy, speaking ability, and AI learning platform. Through examining various facets of autonomy, it is clarified how learner autonomy can be enhanced through the use of AI learning platforms. It also attempted to focus on certain theories and concepts (see e.g. autonomous learning, artificial intelligence learning platform, speaking ability, and especially in *pesantren* learning). Some of the ways in choosing and selecting representative research literature in order to master the fundamental theory of some field including qualitative analysis can be done by interviewing scholars, identifying the grade of literature, literature collection method, literature sorting, and content analysis.

Moreover, the students in higher education are already able to learn independently. Learner autonomy is a primary learning outcome of Higher Education in many countries [9]. This study suggested that the learners should be given a chance to learn autonomously to develop their confidence level in order to achieve successful learning as preparation in the workplace. They can do autonomous learning. It is in line with the educational platform in learning. It aims to enable learners to learn independently through the use of artificial intelligence learning platforms. Therefore, they can be guided to practice their speaking. One of the things that can be done by the lecturer is to guide them in order to select the appropriate learning platform suited to their need and level. These platforms can be accessed anytime and anywhere not only in the classroom. As a result, the students will have a great chance to practice especially in speaking. Speaking skills can only be acquired by practice. The learners do not have only wait for the partner or the lecturer in the class. They can do it autonomously and practice in their free time. This study aims to describe and suggest the artificial intelligence learning platform that can be used by students in higher education to improve their speaking competence based on theoretical references.

2. Artificial Intelligence for English Learning

The use of AI in teaching and learning has gained popularity in the world since its emergence due to its practicality and efficiency. In terms of the implementation, it should be suited to the learner, the teacher, and the institution whether or not they can provide the facility for the use of AI in the process of teaching and learning. AI in the English learning process has been dealing with the learning platform that used AI in the operation. Artificial intelligence can improve education needs. It will need big data processing, education information, and also implementation of IT into the educational process. The use of AI can also give an impact either positive or negative depending on the way how the students and the teachers manage it. Students can get benefit from the use of AI in the form of apps, websites, and other devices to assist them interpret difficult words, constructing a sentence, and also fostering their English learning skills. Therefore, it is truly important for us to consider the use of AI as an innovation to enhance the learning process for a better outcome.

Learning media is the scaffolding of the human body, and artificial intelligence is then also the growth of human intelligence. In the earlier stages, AI has already made many significant breakthroughs in the education field. The first, AI describes human intelligence through the use of computers. The continuous development of information processes has made AI connected to human daily life. Education can be regarded as the pillar stone of social development. The English language considers one of the universal languages in the world nowadays. It is expected that the use of artificial intelligence learning devices can effectively promote and assist the new stage of ELT. Therefore, the Appearance of artificial intelligence will not only function as an effective way of English language teaching practice but also as the promotion of social change [5].

AI-assisted tools in the learning of foreign language learning have been categorized as a sub-class of computer-assisted language learning (CALL). With the fast growth of technology and language processing enabling us to store big data, AI has a large increase in foreign language education. The changing shift from CALL to ICALL (Intelligent CALL) cannot be avoided and then bring a significant change in the learner-computer interaction quality [7]. Then, the use of the AI learning platform is expected to bring a positive significant change in English language learning and teaching emotionally, socially, and also intelligently; of course, some adjustments need to be made and managed.

3. Promoting Speaking Competence in *Pesantren* by Artificial Intelligence Learning Platform

There have been many disagreements about the use of AI for the enhancement of speaking competence due to the reason that it cannot be made as natural as it can if it is compared with human talks. There will be no intonation and expression if it is for promoting speaking competence. But again, that is not the underlying idea of the use of AI for promoting speaking competence. The problem of time management, effective teaching and learning process, the manageable learning process, and also other disturbances such as lack of motivation, low ability in speaking skills, and also the students' anxiety can be solved by the use of artificial intelligence learning platform. The expectation that the students can get great achievement is more important. Personalized learning with the assistance of AI is a great concept but the failure and the success of its implementation will be based on the methodology of teaching and learning. Implementing AI to the traditional methods of teaching English have a success rate of about 5%; then it would not improve significantly without altering the learning methodology by utilizing a new, more solute methodology. On the other hand, there is a large amount of learning applications and platforms that still use the conventional graphical user interface due to the easiness. It makes them stiffed on different practices [7]. Therefore, it is the teachers' task to select and recommend and guide the use of the learning platform choice.

One of the studies tried to investigate higher education learners' behavior towards the benefit of Artificial Intelligence (AI)-assisted device learning platform to scaffold to foster speaking ability in English for Academic Purposes (EAP) classes in university. The results of the study showed that learners expressed their preference to utilize the AI devices for speaking development because there is no teacher feedback.

They were generally satisfied to practice English on these AI devices. However, it also stated that there are some weaknesses in the current AI learning platform. The more important point is that learners found that AI cannot replace teachers. It is suggested from the study that providing more resources is needed including different accents for AI learning platform to assist learners foster their EAP speaking ability [10]. Based on the study, the notion of teacher feedback in fostering speaking is truly significant; without it, students will not realize their strengths and weakness in practice speaking.

Meanwhile, as we know, the process of teaching and learning a foreign language in *Pesantren* needs more attention due to the limited time they have to acquire the foreign language. The process of learning a foreign language does not get full attention; they have to learn many things at the same time. The students in *pesantren* get accustomed to learning autonomously. They need to be independent to equip all of their need and also finish their task. the students' justification for having difficulties in speaking English is not only lacked proficiency in the language's pronunciation, grammar, vocabulary, fluency, and comprehension, but also for a variety of other reasons, including shyness when speaking, a lack of self-confidence, a lack of speaking practice, a lack of preparation time for speaking exams, difficulties using and comprehending the speaking material in English textbooks, and the dormitory environment. This study suggested that in order to boost students' aptitude, motivation, and appropriate and engaging English instruction should be provided [11]. Due to the lack of teacher input, students stated that they preferred to employ AI tools to improve their speaking [10].

By the use of an artificial intelligence learning platform, they can practice their speaking competence in foreign languages autonomously; it is in line with their habit in their daily life in which they need to be autonomous learners in every aspect of life. This kind of factor will contribute a great success in their development in acquiring speaking competence in foreign languages, especially English language.

4. Autonomous Learning by the Use of Artificial Intelligence Learning Platform

The ability to utilize artificial intelligence learning platform requires the learners to be autonomous learners due to the fact that they need to actualize their personalized learning by themselves to train their independence of learning and the ability to select certain things to be applied in their learning process. There are various facets to autonomy: It entails independence, self-assurance, and the application of personal learning techniques. It depends on how willing students are to assume ownership of their own learning; The metacognitive techniques of planning, deciding, monitoring, and evaluating are strongly tied to it [12]. It has been proposed a working "learner autonomy continuum," consisting of four levels: dependence, relative dependence, relative autonomy, and autonomy. The continuum sets a relation between need satisfaction and learner autonomy due to the reason that the four levels of learner autonomy are, respectively, closely related to SDT's four types of the behavioral attribute in the internalization process of extrinsic motivation such as external regulation, interjection, identification, and also integration [13].

As it is stated [10], the manual for improving educational personnel to be able to possess digital skills should be started by providing people with the knowledge and integrating with them by focusing on the model of learning. It will decrease teacher-centered learning and improve other relevant learning instead. Meanwhile, there is a

digital platform to assist teaching and learning through information technology systems. beginning with online teaching, which has trials are widely utilized, including training to develop educators' skills and educational personnel is able to select the corrected and suitable technology. Therefore, it is truly important to equip the students with the skill related to the artificial intelligence learning platform that will be used.

Some of the problems arose in the process of utilizing an AI learning platform in which learner mentoring and supervision is much more needed, and learning should be completely personal and manipulative. Therefore, the teacher should be aware of the need to find new ways of teaching in practice and try to find more efficient choices to minimize the matters faced in the current context [6]. Learner autonomy fosters motivation to learn consequently, and so it also improves learning effectiveness. This impacts students' academic success indirectly. If a student does not realize his/her learning duties, they will lack awareness to study and so they will be unsuccessful during their learning life [14]. In conclusion, the skill of autonomous learning with the assistance of an artificial intelligence learning platform is truly needed to ensure students' success in the future.

5. Suggested Scaffolding of Artificial Intelligence Learning Platform

As it is mentioned before, the students in higher education got a very limited time to learn English in the class. They need to develop their autonomy in learning. Autonomy is also examined in the literature in relation to the extent of scaffolding required for effective learning [15]. Whenever people are able to learn another foreign language it would be easier for them to learn the other foreign language. The advantages that bilinguals have over monolinguals when acquiring an additional language. Bilinguals are more experienced language learners and have potentially developed learning strategies to a larger extent than monolinguals. They also have a larger linguistic and intercultural repertoire at their disposal[16].

Meanwhile, with the development of sophisticated technology recently, it is rarely found the use printed material/ lesson in the classroom. Many institutions would prefer to use digital sources that can be learned by using a handphone, smart tablet, laptop, or computer. It is the replacement of gadgets. Refers to the current situation, we need to adapt to the situation when we deal with the process of teaching and learning. Therefore, the use of artificial intelligence learning platform will solve the problem happened to deal with learning in higher education. The educator needs to surf and relate with the theoretical background knowledge to implement the multimedia platform for using the content of the learning platform. What kind of language skill wants to be developed as the focus of teaching and learning? Nowadays, new learning platforms are developed for specific skills. We can cite the following most well-known educational platforms:

5.1 Duolingo

Duolingo has been widely used as a platform for learning the English language. It has a nice design. It arose a pleasant and cheerful feeling from its use and, moreover, it is also able to target the younger generation of users. Duolingo application is easy and self-explanatory. The learner, moving into mobile technologies, got a clear idea of

how to control the application and what his/her options are. In addition, the user is given an offer a large number of additional functions, for instance, a ranking, rewards, and a relatively detailed overview of the achievement of other users of the application. the lessons can also be repeated, which brings bonus points to the rankings. In the beginning, the user can set the time of day to be notified when the application is used [3]. It has a very good rate in the play store as the application. By using this multimedia platform we English language can be learned from the very basic level beginner, intermediate up to the advanced level. The strength of this platform is that the learners are able to determine the learning target in daily usage. It deals with the time for the learning process. It can be suited to the learner's time management of daily usage. The learners will be reminded to learn as the time setting.

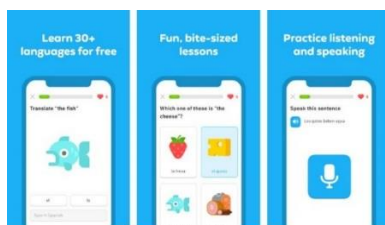


Fig 1.Illustration of Duolingo

5.2 Babbel

This learning platform has quite the same feature as the previous platform. The lesson is provided from the basic level up to the fluent one. The difference is the focus of the learning. The language skills that are emphasized are more on speaking and the enhancement of vocabulary mastery. It enables the learners to practice conversation while enriching their vocabulary. The information provided is interactive, short, and informative.

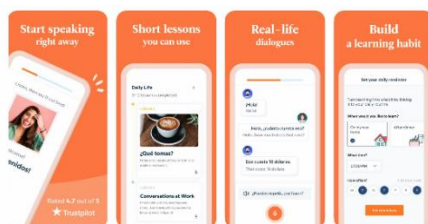


Fig 2. Illustration of Babbel

5.3 Busuu

The focus of the skills that can be used is quite varied in this learning platform. It ranges from grammar and vocabulary to speaking skills. The audio-visual feature from the native speaker is also provided. Feedback from the native speaker of the English language is also given in order to enable the learner to evaluate their learning process. The complete version of the feature can only be accessed in the premium version.

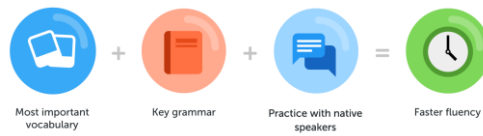


Fig 4. Busuu methodology to teach and learn a language

5.4 Rosetta Stone

Speaking is the main focus of the learning process through this learning platform. The learner can adapt to the short time learning in order to avoid boredom based on various topics the learners need'. There is also a specific program to learn Basic English. The learning process can be done interactively and contextually to provide a joyful learning process to foster the learner's skill in acquiring the English language.

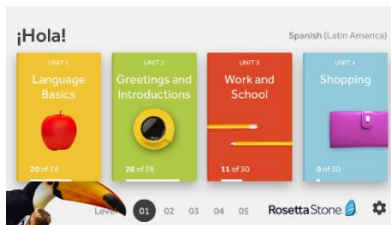


Fig 5. Illustration of Rosetta Stone

5.5 Hello Talk

As the previous learning platform, it also focuses on the improvement of speaking skill. Then, the learners are able to communicate to foster their speaking skills by talking to the native speaker. Their partner will also ask for imbursement in the source language. Both of the learners then will be able to practice speaking by using the source and the target language.



Fig 6. Illustration of Hello Talk

5.6 Speak English fluently

There are some features provided in this learning platform such as conversation, everyday sentences, vocabulary learning, necessary phrases, daily expression, irregular

verb, and also a quick lesson. With the various menu provided in this platform, the learners are able to select the focus of their learning. In the conversation feature, the learner can suit the level of the lesson.

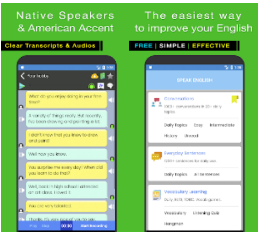


Fig 7. Illustration of Speak English Fluently

5.7 English Conversation

As it is reflected through the name. Speaking skill is the focus of the learning. This platform has been provided with the level of the learner from beginner level 1-4, intermediate level 1-3, pre-advance, up to advanced 3. Other additional features are English idioms, English vocabulary, and favorite lessons. The learners can train to foster their speaking skill suited to the learning level.



Fig 8. Illustration of English Conversation

5.8 Cake

This learning platform provides the learners with the video as the basis of the learning process. The video has been created interestingly and also provided by YouTube to simulate real English expressions to enhance the learning process. Artificial intelligence technology also functions to evaluate the learners' pronunciation by recording the learners' voices then feedback will be given directly afterward. The vocabulary lesson is also updated daily. The learners are also able to experience having a chance to speak with a private teacher. Some quizzes are also provided.

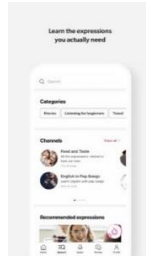


Fig 9. Illustration of Cake

5.9 Elsa Speak

Fostering speaking is the focus of this learning platform. Due to the main focus of the learning process, the learners are provided with the native speaker feature to enable them to practice speaking. Picture-animated and enchanting interfaces are also provided. Another feature is progress in all essential English skill to improve the learners' mastery of the English language. It covers intermediate, listening, fluency, and word stress up to intonation. The artificial intellectual feature is also provided to evaluate the speaking ability of the learner. Another feature provided is popular English word ranges with various topics, TOEFL, IELTS, and TOEIC.

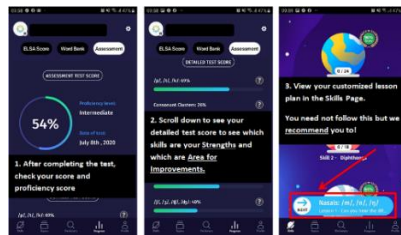


Fig 10. Illustration of ELSA Speak

6. Consideration for Implementing AI Learning Platform in Higher Education

There might be some considerations that need to be prepared before implementing the use of artificial intelligence learning platform in the process of teaching and learning in higher education

6.1 Equity and access to technology

Implementing technology especially digital platform need to be reconsidered when it is deal with the learners' socioeconomic status. As educators, we cannot force students to possess digital technology by themselves. Their socioeconomic need to be examined whether or not they are able to possess the gadget as an educational device to learn autonomously. If the case happens then, the institution must be responsible to provide them with the technological devices. Then if it is possible, the use of multimedia platforms can be implemented in the process of teaching and learning.

6.2 The educational purposes of the use of a learning platform in the learning process

The practice of teaching and learning in one of the private institutions might be different from the public educational institution. The emphasis given is focused also on the behavioral aspect of the educator and the learner. There is a basic need to conduct the learning process with the educator directly in the classroom. The implementation foremost is not due to the changing technologies to replace the role of the educator. On the other hand, the objective is the extra time for learning. As it is mentioned, the reason is due to the limited time to discuss every single thing in the classroom. As the extra lesson outside the classroom, they need to do autonomously learning by the use of a learning platform. The objective of the learning process also needs to be examined. In order to cover all of the aspects of the educational purpose, a learning platform can be suggested then [17].

6.2 The learner and the educator's ability to use the technology

Technology can be used and explored in the process of teaching and learning if the educator had already possessed the skill. With the mastery of the skill, guidance to the learners can be given then. They can show the use and function of the AI learning platform. In line with the previous explanation, the ability of the learners toward operating the technological devices need also to be considered due to the reason that they are the ones who are going to use the learning platform. Not only the learners but also the educator needs to be ready with the AI learning platform. Likewise, educators are often not well trained in the uses and potential ethical implications of teaching in an increasingly digitalized institutional environment [17].

7. The use of AI Learning Platform in Autonomous Learning

There has been some consideration before using the AI learning platform. It deals with the following things.

7.1 What is the AI Learning Platform Used

The initial step that needs to be done is the investigation. The educator must be able to investigate what kind of AI Learning platform is suitable for the learners. The focus of the learning process has to be set before, what kind of language skill needs to be fostered by the use of an AI learning platform. It also covers the feature of the AI learning platform used and whether or not suit the objective of the learning set by the educator. If it is suitable enough with the objective of the learning then it can be implemented. The language used need to be investigated also. It deals with the level and also the quality of the platform. Some people might refer to the rate of the application.

7.2 How to Use the AI Learning Platform in the Learning Process

This kind of question relates to the some consideration that are following. The first thing that needs to be determined is whether the adaptation with the learner level of the target language is being learned. It also covers the technological tools and whether the learners are getting accustomed to the application of AI learning platform or not. The learner's autonomy plays an important role in it. Autonomy is a capacity that functions for detachment, critical reflection, decision-making, and interdependent action [18]. If the case does not happen. Then they will need to be given a training or short course on

the use of the platform. The second consideration is feasibility and accessibility. It deals with the facility provided the reason that not all of the institutions in higher education allow the learner to be equipped with AI learning for specific reasons. The next consideration deals with the objective and the outcome of the teaching and learning process.

7.3 The function of the AI learning platform used

The AI learning platform used might serve as both the intra-lesson and the extra lesson. If it functions as an intra lesson then it should be integrated into the process of teaching and learning in the classroom. The educator has to arrange the lesson plan before conducting the implementation. On the other hand, if it functions as an extra lesson then the learner needs to be given freedom to select and choose what is the AI learning platform suitable for them. It deals with their weakness in language mastery. The case happened will be varied among the learners focused on some skills that need to be fostered.

7.4 Knowing the strength and the weakness

It is truly important to know the strength of the AI learning platform in order to get optimal outcomes and maximize the function. The educator needs to consider the weakness of the AI learning platform being used to be given a solution with the help of the educator.

7.5 The feasibility and the accessibility

The use of technology especially AI learning platform relates to the feasibility of the implementation. It deals with time management, the context and situation faced, the sociocultural aspect, and most important thing the accessibility of the learning platform. The geographical location needs also to be reconsidered.

7.6 Evaluating the use of the AI learning platform

The process of the evaluation needs to be set from the beginning starting from setting the objective, the aspect that will be evaluated, the evaluation technic, the tools of the evaluation, the outcome, interpreting and drawing conclusions, and applying feedback from the evaluation.

8. Conclusion and Suggestion

The use of AI learning platform in higher education deals with the following things: What is the learning platform used (it covers the focus, the feature, the language used), How to operate it, the function of it, Knowing the strength and the weakness, the feasibility and the accessibility of the AI learning platform. studying English for autonomous reasons and having a motivation orientation that focuses on advancement and gains (i.e., a promotion orientation) were the strongest predictors of expectancies of success [19].

The step in conducting use of an AI learning platform in the process of teaching and learning includes three steps that are preparation (Investigation - setting the objective and the learning outcome) - implementation (trial and error) – evaluation (Evaluating the learning outcome based on the objective that wants to be achieved and knowing the student's perception). Similarly, teachers' use of learner autonomy in teaching English-speaking classes emphasizes various areas of language teaching: setting objectives, selection of materials, methods, evaluation process, learning environment, teacher-student relationship, and teacher's role [20].

The use of AI learning platform is an interesting case that needs to be investigated, the future researcher might conduct the study by applying different methods of study and examining other language skills. The focus of the future study needs to be focused on applying each of the learning platform. Knowing the student's perception need also to be examined.

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