

## **Speech Deposit: Systematic Approach to Free Speech and Responsibility**

Hideki Kakeya, Associate Professor, University of Tsukuba, Japan

### **Abstract**

Modern society treats each person as a free individual who takes responsibility of his/her own decisions. Accordingly free speech is regarded as one of the most important values for citizens. On the other hand, free speech is a rare example of freedom which can often escape from responsibility even when it has influential power on the society. This may be the reason why not few people have started to think that some form of censorship is necessary with the rise of new media.

To establish responsibility of speech without violating free speech, the author presents the notion of speech deposit system, which guarantees people to pay back the profit of press and speech when the description turns out to be wrong in the future. With this system we can give negative incentive to the writers or speakers who try to gain profits by publishing fraudulent information or fabricated stories. Since it is just a private system without any compulsory power, it does not violate rights of free speech. Yet it can control the influence of irresponsible speeches because people are expected to judge that speeches without deposit are less reliable than those with deposit.

### **1. Introduction**

The most dramatic change of the world in the last decade is the spread of internet technology. Owing to this technological progress the amount of information people can access has increased dramatically. Before the surge of the internet technology, people have been dependent on the media such as newspapers, TV, radio, or books, which are all run by professional journalists. In the internet age anyone can be a journalist or an editor who gives opinions on social issues to the public. Indeed there are many internet journalists or bloggers who obtain thousands of accesses per day.

Though variety of information sources has increased, it does not necessarily mean that people can obtain surer knowledge on controversial issues. On the contrary, people tend to be more confused because they have no clues to decide which information source is reliable and which is not. Thus people can be more dismayed and uncertain as they are given wider options of information sources.

The increase of uncertainty, of course, is not only because of the increase of information. Even before the rise of the internet, the traditional media have sometimes made mistakes and people

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have not always believed all the information given by the newspapers or TV. When we consider the problem of uncertainty, it should be noted that we live in the age of increased complexity, as well as increased information.

Let us give you an example. In modern society almost all safety issues are related to some kind of new science and technology. This fact can be reconfirmed when we consider major safety topics which are currently at issue: nuclear power plant, avian influenza, toxic pesticides, BSE, global warming, etc. In each area there are many experts to assess the risks of these issues. The source of risk, however, is often so complicated that the results of risk assessment vary among the experts. In the academic community researchers have tried hard to obtain surer knowledge and criteria to measure the probability and the size of possible risks. Instead of the hard work by the researchers to reach agreement on objective risk assessment, there still exist many issues where experts conflict on the evaluation of risks. The main reason for this difficulty is that modern science and technology deals with the problems which cannot be measured for sure for a long period of time. For example, safety of nuclear power plants or side-effects of the long-term use of new medicine cannot be confirmed for sure soon. We need to accumulate data to predict their safety with high confidence. As for the environmental issues, whether carbon dioxide is the main cause of warmer climates is still a matter of debate though it has been long since this hypothesis was first introduced to the public[1].

Basically these uncertainties are the matters of imperfection of knowledge. Indeed, risk information given by experts or journalists almost always includes some uncertainty and often turns out to be wrong, though it always has certain facts or logic to support the idea. The problems, however, are not always that simple. Experts and journalists sometimes publish distorted information intentionally for their personal benefits. Forefront science and technology usually include difficult theories which cannot be easily understood by ordinary people. Not only many journalists, but also some experts misuse the asymmetry of information to attain their commercial success or political goals by predicting that things less probable can happen with high probabilities.

Since the issues of safety and the environment are complicated and it takes a long period of time to prove which theory is right, predictions on these issues are often forgotten when they are settled even if they obtained great attention of the public when they were first published. Even when people remember their fabrications because of the great damage it has given to the society, people

usually do not have any means to punish them. Therefore speakers and writers do not have to worry about the blame by the public for their wrong predictions. Thus experts and journalists can freely manipulate the information they publish with no risks once they obtain the authority. In this situation what matters to the predictors is not whether their prediction is right or wrong, but whether their predictions benefit them at the time they publish them. For example, if their predictions can attract attention of the public, they can earn much money by selling books or writing articles on the mass media. Or if their predictions can lead the people to choose a policy which benefits the predictors, they can also obtain benefit from their wrong predictions. In short experts are often situated in the place where intentional wrong predictions give them great returns with no risk.

Of course people are beginning to notice the moral hazard among the experts and journalists as it becomes more prevailing. It is fair to say that one of the main reasons why internet media has become active is people's distrust on the traditional media. Indeed we see many websites which criticize traditional media and academia. Of course such criticisms are not always true. Since anyone can write anything on the internet, most criticisms include varieties of misunderstandings and false beliefs, which are often poorer in thoughts than those given by the traditional media. Thus it is becoming harder to find out true information from the piles of documents on and off the internet.

To save people from this information chaos, it is necessary to build up a system where wrong predictions have some disadvantages to the people who give them. In reality, however, it is not that easy. It takes long before people can know whether the prediction is right or wrong. Also the rights of free speech have to be respected and taken into account. In this paper the author presents a novel speech deposit system[2], where liability of the experts for their risk information and their rights of free speech are both secured.

This paper is organized as follows. In Section 2 basic design of the speech deposit system is explained. In Section 3 the actual trial of speech deposit system in the real world is reported. In Section 4 background of the current situation where the feedback systems such as speech deposit is becoming needed is discussed in depth, considering the features of post-modern society. In Section 4 the summary of the paper is given.

## 2. DESIGN OF SPEECH DEPOSIT SYSTEM

### 2.1 Basic Principle

In this section the author describes the basic design of the deposit system to guarantee liability of press and speech. The basic configuration of the system is shown in Figure 1. As shown in the figure, a group of authors and speakers establish an organization to which they deposit the income obtained by press or speech. The persons who pay for the press can become the registered readers or subscribers. After the period of time announced at the time of publication, the registered readers or subscribers can cast votes on the press they have paid for. Then the organization distributes the deposited money based on the results of the votes. When the registered readers judge that the press they paid for has turned out to be true, the deposit is paid to the author. When the registered readers judge that it has turned out to be false, the deposit is paid back to the readers. Of course the payback rate can change continuously. For example the organization pays 60% of the deposit to the author and 40% to the readers if the average of the voted score is 60/100. The deposit money can be paid back not only to the readers but also can be donated to the people who have been damaged by the wrong predictions.

The point of this system is summarized as follows:

- (1) Right to vote is given to everyone who has paid for the press or speech equally.
- (2) The author can choose the rate of income or the amount of money they deposit  
(Of course the author can decide whether they join this deposit system or not).
- (3) The deposit rate is announced openly (e.g. on the front cover of books).
- (4) Each press and speech is judged after enough span of time.

The first point is important to prevent the results of judge from being biased to a specific group or ideology. In Japan there have been some organizations which tried to evaluate press and speech. These trials have not succeeded because people cannot give enough credits to the judging committee of the organizations. Indeed the judges are selected by the organizations at their own will, which tend to be a selection favorable to the organization itself.

The second point is important to protect rights of free speech. Projects which try to evaluate

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press and speech are always criticized because they can be a kind of censorship which invades freedom of speech and press. The proposed system, however, is free from these criticisms because it is a voluntary system, not a compulsory system.

The third point is related to the second point. Being a voluntary system means that it can be avoided by the malicious writers or speakers, who can keep on publishing fabricated information with no risks. Yet this system helps the readers to distinguish writers' intentions by providing them a new label to judge whether the writers are taking the risk of being judged. The writers who join this system can openly announce that they pay deposit. For example a writer of a book can announce it on the cover of the book so that all the potential readers can see it. Of course being judged in the future does not always mean that it is the source of reliable information. Predictions always have some uncertainty and mistakes can happen. When the information is based on the speech deposit system, however, the writer cannot obtain financial merit by distorting the truth intentionally, which can often benefit the writers or speakers in the current risk-free speech society. The point of this deposit system is that it can help readers to notice intentional mistakes with more probability.

The fourth point is essential to ensure fair judge by the readers. The proposed system is basically focused on the press and speech dealing with risk information, which tends to be written or spoken sensationally because it leads to more sales. Sensational discussion often deprives the readers of logical thinking and makes them emotional. After enough span of time, however, more information related to the risks in focus are accumulated and the readers retrieve calmness, which leads to fairer judgment on the risk information they obtained in the past.

Let us give you a concrete example. In 2002, *Juki-net*, a data network system among local governments, was established in Japan. Many journalists and a few experts on internet criticized this system for the reason that the risks of personal data theft via network would be quite high. Most experts on network security, however, evaluated that the risk of networking was less than the conventional risks, like the insiders stealing the backup media of the data system. Also many experts predicted that private companies were more vulnerable to information theft because they had richer personal data such as history of what each consumer had bought. In the midst of the controversy, however, these opinions were totally shut out from the media and the journalists and a few experts had made great amount of money by the negative campaign against *Juki-net* on TV programs,

newspapers, magazines, and books. The journalists could not convey rational views of the experts, presumably because attacking private companies could be attacking sponsors, while attacking governments were commercially safer for the media. Less than a year had passed when information leakages from some major companies were revealed in succession, most of which were caused by the insiders who stole the backup media. The journalists and the experts who repeatedly agitated risks of *Juki-net*, however, kept on appearing in the media without any apology on their wrong predictions.

If the speech deposit speech had been available at that time, the truthful experts could have deposited money for their public announcement predicting that people would witness data leak incidents more often from private companies than *Juki-net* in the next five years based on their own scientific risk assessment. By being informed whether each assessment of risk is given based on speech deposit or not, people can obtain a new criterion on whether the risk information announced by the journalists or the experts is reliable or not.

It is true that experts do not have any financial merits when they publish risk information with speech deposit. It is a high risk, no return system from the viewpoint of risk communicators. However, it is also true that not all experts seek only for financial success. Not a few experts have strong innate incentive to attract the attention of the public and inform them what they believe is scientifically correct. Since the label of speech deposit can be a powerful tool to attract people's attention, experts can have the motivation to join the speech deposit system and publish risk information with the label of speech deposit.

### **2.2 Evaluation of Predictions**

In the proposed deposit system, evaluation process by the voters plays the most important role to maintain integrity of the system. If this process is not fair and transparent, reliability of the deposit system cannot be secured. To realize fair and consistent evaluation, we have to consider a couple of important issues.

The first problem we have to consider is the stochastic natures of risks. To fully evaluate stochastic predictions, we need time much longer than the average human life span. For example 30-year probability or 50-year probability is used when we evaluate risks of earthquake or flood. After 30 years or 50 years, we know whether an earthquake or a flood has happened once or not. This

information, however, is not enough to evaluate whether the prediction model of each expert is right or wrong. We need much more samples to evaluate stochastic models.

One way to cope with this problem is not to deal with stochastic predictions in the deposit system. Nevertheless almost all predictions include some uncertainty when it comes to complex risk issues. Since risk assessment of most systems always include some stochastic models, excluding it from speech deposit means that it is not a practical system for modern communication. What matters in modern risk communication is the malicious manipulation of numbers in the stochastic predictions. Even if the prediction is stochastic, stating that a serious accident is going to happen with the probability of 99.9% strongly affects the public attitude toward risks. Therefore including stochastic predictions in this deposit system is essential to keep the system effective.

As a guideline to evaluate stochastic predictions, we propose an evaluation guideline as shown in Figure 2. In this guideline, the reader is expected to give the writer full score if the book stated that the risk was higher than the reader had thought before he or she read it and the risk in focus really has happened by the judgment time. Also full score is given if the book stated that the risk was less probable than the reader had thought before he or she read it and the risk in focus has not happened. In other cases the readers can lessen the scores in proportion to the difference of risk perception between the writer and the reader. When the writer said that the risk was 100% and it has not happened, or when the writer said that it was 0% and it has happened, the score is expected to be 0.

The second important point is how to deal with malicious votes. In the deposit system the author proposes, more money is returned to the readers as they give less scores. It may lead the readers to score less than they really think to gain more paybacks. To prevent this kind of malicious judgment, one option is to adopt the system where the payback to the group of voters who have given lowest scorers is reduced.

Evaluation process also includes other concerns. For example, long span of evaluation system means that the readers can forget about the books or even die during the interval. As for the former case, the organization running speech deposit system can notify the readers about the judgment time via internet, etc. Since most people in the developed countries can have the internet address which is valid for a long period of time, and even if they close the e-mail address it is easy to notify the new

address to the organization, now it is not too difficult to keep on contacting with the readers for a long period of time. As for the death of the readers, we can think of a system where the readers can hand over the right to vote to his/her sons/daughters or friends.

Also judgment process by the readers can be omitted if the writer is forecasting the number which has no rooms for debate, such as oil price on certain date, average stock price on certain year, official population of a country on certain year announced by the government, etc. In this case this system can be regarded as a kind of prediction market system by experts.

### **3. Activities So Far**

As the first trial of the speech deposit system presented in the previous section, fifteen members, including the author, founded an NPO to run the deposit system in April, 2004. It has obtained a legal status as a juristic person in Japan.

There exist several types of press and speech which deals with uncertainty. The speech deposit NPO categorizes them into four groups:

- (1) Books
- (2) Statements via mass media, including newspaper articles, comments in TV programs, etc.
- (3) Internet magazines (Web, E-mail)
- (4) Application for research fund

In the first three cases the writer of the books, articles, or the internet magazines deposits certain portion of the income obtained by the writing. It can be not only writing but also speech in TV programs or open lectures. Here it is important to announce the ratio of the deposit to the total income officially, for it can be an important index to measure how confident the writer is on his or her statement.

The deposit system can also be applied to evaluation of researchers funded by the public research funds. In the current research cycle in Japan, research projects are evaluated severely only when the judging committee decides whether it accepts the application or not. Once accepted, researchers can use the research funds freely as long as they do not violate the accounting rules. Even

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if the researchers cannot attain the goals described in their application document at all, they do not have to take responsibility for it. Therefore researchers are inclined to fill in the application document the story which has almost no chance of success. This situation has close similarity to the case of risk communication and we can adopt the speech deposit system in the same way to prevent it. After the term of research projects, application documents by the members of speech deposit system are made public and the researchers are evaluated by the people who have bought rights to vote. The deposits are taken away if the voters judge that the researchers wrote groundless success stories in their application documents. This can help academia to establish more sincere communications among researchers.

Since the start of this project in 2004, the NPO has accepted nine applications for speech deposit: one for book publishing, one for a newspaper article, one for internet speech, and the other six for application for research funds. The title of the book joining the speech deposit project is “Lies by Scholars”, which points out major lies by the experts of various fields in Japanese academia. In one subsection of the book the author gives opposite prediction against one of the best selling books in Japan which predicts that more than 200,000 Ph.D. degree holders will be in the jobless status or can be given only temporary jobs after 20 years. The book based on the speech deposit predicts that the number of doctors in no job or part-time job status will be between 10,500 and 58,500 in 2024. The author deposits 20 percent of the royalty income from the book sales for his prediction in the book. About 16,000 copies of the book have been sold so far.

The first article of the newspaper based on the deposit system is on the prediction of future overtime work in Japan. It gives opposite prediction against the article on another major newspaper which supports the law enforcing companies to encourage male workers to take child-care leaves, stating that it will reduce overtime work of male workers. The article joining the speech deposit predicts increase of overtime work because only large companies can afford such kind of leaves, while smaller companies, which are usually the subcontractors of large companies, have to force their employees to work longer if the employees of large companies work less, for it is the age of global competition and the companies cannot accept any increase of cost.

The first internet speech with financial deposit has been given by a Japanese famous robot researcher in 2008, predicting against the future road map by the government which tells that the

market of robots for non-industrial use will rise up to 1 trillion yen (about 10 billion USD) in the next five years. He predicts that the market size of non-industrial robots will be less than one tenth of the government's prediction, while that of industrial robots (robots for factory automation) will see a steady growth.

Six other trials on speech deposit are on the application of research funds. So far one application has been accepted. The accepted project finished in March, 2008 and the NPO will gather votes on the research project during 2008.

As the number of the ongoing trials show, it is true that the activity of the speech deposit project has not been attracted enough attention of the public so far to be recognized as one of the major label to measure reliability of speech and press. To make this deposit system major in the world of press and speech, we still have a long way to go. The most important point is that the organization which runs the deposit system has to obtain enough credibility so that it can be relied both by the writers and the readers. Since this is a voluntary system, any groups of writers or readers can start this project. If an association which has already obtained enough social credibility starts running speech deposit system, we can expect future expansion of the project.

It is expected that more refinement of the system proposed here is realized by keeping on running it in the society. Since the evaluation by the readers is carried out after a long period of time after publishing, it also takes long before the effectiveness of this system can truly be evaluated.

#### **4. Discussion**

The administrative approaches like speech deposit often become the target of criticism by the believers of good nature of humans who strongly support the principle that humans can attain a better society as long as they are free. This type of optimism is based on the two major streams of modern philosophy. One is the philosophy of Descartes, which presumes that the human is a rational existence and the other is the philosophy of enlightenment, like that of Rousseau, where proper guidance and education can lead the humans to develop their innate good talents.

The modernization of the world after the industrial revolution owes much to the spread of modern philosophy. Industrial revolution was triggered by combining engineering with modern science, which is based on Descartes' mechanical view of nature, while the spread of the

industrialization is made possible by the modern education system where the knowledge of science and technology is passed on systematically to a large population. From the latter half of the 20th century, however, the speed of modernization is beginning to lose its momentum in the developed countries, partly because the problems easy to solve with modern ways of science and technology have been cleared and remaining challenges are all hard problems which are estimated to require great effort and time to solve, and partly because the population of intellectuals has saturated and the work force of further modernization is running short. Indeed the ongoing modernization is only in the developing countries trying hard to catch up with the developed countries, which can be confirmed when we compare the rate of the economic growth in the developed and developing countries. This means what we can call modernization is to achieve what the modernized countries have attained so far and the developed countries cannot keep on modernizing themselves any more. Some people like the term “post-modern” to indicate this situation.

Since the end of modernization has become apparent in the 1970s and 80s, there have been many debates on the conception of humans and society which challenge the modern philosophy, by social psychologists[3], behavioral economists[4], computer scientists[5], brain scientists[6], philosophers[7], psychiatrists[8], cognitive scientists[9], etc. Although human and social aspects of post-modernity have been discussed on a large scale, there have been few discussions which consider the technological aspects of post-modernity, which we consider in the following discussion.

In developed countries expectations of people toward science and technology have changed greatly in the couple of decades. Fifty years ago people used to expect science and technology to attain mass production so that more people can enjoy the fruit of new science and technology. Engineers in those days are confident in what they are doing because they are making what all people demand. In recent years, however, expectations of people toward technology are not focused on mass production any more since the fruit of technology are already widespread in developed countries. As the rise of the marketing approach shows, it is becoming harder and harder to know what people really need or want in these days. Not only the engineers but also the consumers themselves do not notice what they need and what they want, which can be regarded as one of the main features of post-modernity. Accordingly, science and technology in the post-modern age have the following two features. The first feature is risk-oriented tendency and the second feature is talk-big tendency.

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First we discuss the risk-oriented tendency of post-modern technology. Of course risk of technology itself is not a new problem. In the modernization phase in which the focus of engineering was on mass production, however, engineers did not face the problem of uncertainty as often as today. Even when there were uncertainties in their technology, they could soon confirm whether it would work or not in the age mass production. They could build a prototype of the product to predict whether it would work or not with a high probability.

In recent years, technology often deals with huge system, such as nuclear power plants, space stations, or global climate change, where we cannot carry out experiments except with computer simulators or miniature systems, which sometimes do not give us enough information to predict the behavior of the real system. This is why we face more uncertainty in the post-modern science and technology. Moreover, increase of uncertainty is not limited to the huge scale systems described above. Even the products for daily use are facing the problem of risk and uncertainty because the level of safety people demand has increased. In general, risks with high probabilities are easy to be detected because they often happen in the development process or the test process, while risks with low probabilities are harder to find because low-risk problems do not usually appear before they are sold in the market and used by many consumers for a long time.

The conflicts related to risks have another difficult problem. The concept of risk often includes the problem of personal values which cannot be measured objectively[10]. It is often the case that risk A is acceptable but risk B is not acceptable for some people while risk A is not acceptable but risk B is acceptable for others even when both of them are given the same information on those risks. It is also often the case that most people think risk A is acceptable and risk B is not acceptable even when most experts assess that risk B is much greater than risk A. This also represents the post-modernity where people do not share the “grand narrative” any longer as Jean-François Lyotard said[11].

Though the problems of risks include conflicts of personal values, it does not mean that we cannot separate the discussion on objective assessment based on science, like estimation of probability, from that on personal values. People, however, often take tactics to confuse these two aspects of risks intentionally to fulfill their personal satisfaction. As a result strategic lies and frauds

which disguise science become prominent. This is one of the main reasons why we need systems like speech deposit introduced in this paper.

Besides the problems of risks discussed so far, the post-modern society faces another pressure which induces people to commit fraud. Though the age of modern mass-production style is over, the structure of the society in the current world is still based on the design to support modernization. Capitalism, which most countries adopt as their economic principle, presumes that the scale of economy grows with constant speeds. The presumption, however, only holds in the modernization phase. The growth of the real world has slowed down after modernization. It is true that technology is still advancing. The new innovations of technology, however, can only give “small narratives” and cannot build up “grand narratives” any more. In the modernization phase there were many products which all people demanded, such as radios, refrigerators, washing machines, TV sets, vacuum cleaners, air conditioners, automobiles, etc. Many of the recent high-tech products, however, are not the dreams for everyone. For example, few people think that they benefit from further improvement of the calculation speed of computers or the capacity of hard disks. Few people demand the band width faster than the current broad-band networks. As for the technology of HDTV, some people are eager to buy it, while others prefer watching lower resolution internet videos to high resolution TV streams.

When most people demanded similar products, capitalism was an efficient system, for huge investment was required to realize mass-production, which in turn gave great profit. In the post modern age, however, what technology produces are only small narratives, which bears little returns for investment. That is why investment is more active in the countries in the process of modernization than in the countries in the post-modern phase as the globalization of the market proceeds. To attract investment in the developed countries, people in the post-modern situation have to keep on talking new grand narratives, even if they are not realistic. Space development projects in the 1970s, human-like artificial intelligence projects in the 1980s, and the recent humanoid robot projects were all good examples of such grand narratives which were destined to fail. It was predictable for the experts who had enough knowledge on these fields that those projects would fail, for technological basis to attain their goals had not been established when those projects had started. Though they knew that they would fail, they had to fabricate unrealistic stories because capitalism forced them to tell grand narratives.

From the historical point of view, rapid progress of technology accompanied by high-speed economic growth is just a rare situation which humans experienced only in the last few centuries. Before that humans are used to the civilization which grows slowly. Since the speed of technological progress is slowing down, the situation the engineers are facing now is similar to that of the medieval ages when the main jobs of the engineers are the maintenance of the succeeded civilization, not the successive chains of innovations as shown in Figure 4. Yet the social system is still presuming the same speed of technological progress as stated above. To bridge the gap between the dream of ever-lasting modernization and the reality of technology, people have no other options but to keep on lying.

It is true that complete denial of market mechanism is not realistic since we have witnessed the total failure of communism. Still the current economic system is also hard to last for long, for people are witnessing successive failures of capitalism like the subprime loan problem, the jump of oil and food prices, etc. New systems such as speech deposit may contribute to shorten the gap between the narrated future and the real future. As Bernard Lietaer says, it is not plausible that the future monetary system is just the simple extension of the current system considering the features of post-industrial society[12]. Lietaer's most optimistic scenario is the emergence of the supplementary systems to compensate the weak points of the current monetary systems, such as local currency systems. Speech deposit system can be one of such supplementary systems to make the post-modern economy which can distribute better commonwealth to the people.

### **5. Conclusion**

In this paper the author has presented the speech deposit system which guarantees the readers and the audience to pay back the profit of press and speech when the description turns out to be wrong in the future. The author has also reported on the activities of the NPO which has been founded to carry out the speech deposit system in practice, where several speech deposit trials are in the ongoing status.

With the speech deposit system we can give negative incentive to the journalists and experts who try to gain profits by publishing exaggerated or fabricated information, which is often the case in the post-modern society. Since it is just a private system without any compulsory power, it does not violate rights of free speech. Yet increase of information source based on speech deposit can still have

a meaningful effect on the recovery of sincere communication since the readers can see whether each information source is taking risks of being judged in the future or not, which provides readers a new index to judge whether each information is worthy of reliance and trust. Thus the speech deposit system has a possibility to improve the communications so that journalists and experts may not misuse uncertainty or difficulty of risks for their own benefit.

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