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# The Decoding and Feedback of the Linguistic Message under the Information Asymmetry

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**Abstract:** *The transmission of the linguistic message in the communication is composed of six steps, including coding, sending, transmitting, receiving, decoding and giving feedback of the message. In this procedure, the information asymmetry is permanent while symmetry is relative. The symmetry both in the quantity and quality is the perfect state in intercommunication. There are three events which could affect the information symmetry: transmission, integration and feedback. There might be some noises exist in the linguistic message which the speaker has sent. From the attribute of the noise, it can be divided into two types: the primary noise and the secondary noise. The noise might but not certain to debase the efficiency of the transmission. It is absolutely necessary for the listener to reduce the inconveniences that the noises would cause.*

**Keywords:** Information asymmetry decode integration feedback noise

## 1. Introduction

The linguistic message asymmetry in communication actually including two meanings: the first one is the asymmetry of the information itself which is associated with the inner structure of the information. The other one is the information asymmetry among people in the communication. This paper mainly studies the second one. Before the discussion, we should make a comparative analysis

between the process of information transmission on the general sense and that in the linguistic communication.

According to the traditional information theory, the entire process of the information transmission includes five steps, and they are coding, sending, transmitting, receiving and decoding. This is only a one-way course. It looks like a one-way street which transmits the information from one side to the other side. As to the integration, decoding and the realization of

the information value at the listener, the speaker knows nothing about it. During this procedure, the speaker and the listener are two separate individuals, and nothing combines them together. Although the speaker has sent out the information, it is only a one side process which exists in the real linguistic communication. However, it is not common. If one side did not react to the other side in the interchange, it shows that he lacked for the willingness of cooperation, which would lead an unsuccessful communication. The communication will break down if one of the two sides rejects to cooperate with the other side, and they cannot set up the relationship with each other, either.

There are more successful communication examples in our real life. One of the criteria that we judge a communication is successful is that one side makes some related reaction to the other side. "If the information system has been determined, the so-called sending information, as to the source information itself, is just some changes and only when these changes have been received and induced by another object or system can we call this process as sending information. And it forms an information system till this moment." (Zhu, 2002, p.43-44). Therefore, in our real linguistic communication, the above information sending process lacks for one essential part—the feedback. In the communication, conveying a linguistic message is not a one-side procedure. As an information system, a process of conveying a linguistic message consists of six parts—coding, sending, transmitting, receiving, decoding and giving feedback. This process

including three main factors: the speaker, the listener and the information.

## 2. The Restrictions of Information Symmetry and the Ideal State

From the philosophical view, information asymmetry is eternal, so there is no means to eliminate the asymmetry completely. But it does not suggest that people under a certain communication can not reach the balance about the information in any moment. These three aspects below are what we want to emphasize.

Firstly, information symmetry is a kind of localization. We should confine the discussion to the matter at issue. It means that the speaker and the listener can reach the balance only when the information symmetry is limited to specific information. It is not applicable to broadening the scope to the whole information system of the two participators.

Secondly, there are two stages when people decode a linguistic message: the superficial processing and the background processing. The so-called superficial processing is a process the listener decodes the information that the speaker has sent. It composes of two arrangements of ideas. The first one is to decode the language which is the carriers of the information. The second one is to grasp the substance of the information and to comprehend what meaning it intends to convey. Every people or every individual has an information bank. The background processing is a process to use the information bank that we have already had to integrate the information that has handled in the superficial processing, which is a preparation for the feedback and

application. This step plays an important role in the accomplishment of the information's value.

The listener is able to reach the balance with the speaker when decoding the message in the superficial processing. There is an information symmetry in this arrangement, however, it does not say that the information both sides have are completely equivalent, for the information that the speaker has sent to the listener is just an image of the original message not the transference or the duplication on account of the re-decoding of the original one before the speaker sends it out. Furthermore, instead of an undamaged process, it accompanies distortion when the listener decodes the message. The information intact is merely an ideal design. Actually, information distortion is permitted in certain range as long as the key points of the information that both sides have are the same, because the others are not able to affect people to receive the message and then to integrate, judge and use it, that is, they have no effect on the background processing. But due to the different information bank every individual has, once people get into the background processing, they will have varied degrees of integration, feedback as well as the application of the message. Sooner or later, the value of the information is different and both sides back to the state of information asymmetry.

Thirdly, information symmetry is not only the symmetry of the quantity, but also the symmetry of the quality, and the second one is more essential. The so-called symmetry of the quantity is to say that the amount of the information with the similar substance that

both sides have is the same. For example, A has three messages about tomorrow's weather, and B has only one message which is the same with what A has. If A gives two messages that B does not have, then they would get balance on the quantity of information about the weather.

The symmetry of the quality consists of two aspects. On one hand, concerning the information itself, the key points about the similar information both sides have are identical. The key points are those points that have an influence on the accuracy of the information and then affect the listener's comprehension or judgment, like the time, place, figure and the qualifier etc. For instance, A has a message about the meeting that will hold tomorrow, it is to say 'there is a meeting tomorrow morning at 8 a.m.'. If A sent the message to B as 'there is a meeting tomorrow morning', obviously, one of the key points——8 a.m.—— has been omitted. The message B received is discounted. Though they have the same quantity of the information——only one, and they have two key points——the vague time(tomorrow morning) and the event(hold a meeting), the information they have about the meeting is not symmetrical because of the lack of equivalence of a key points about the exact time 8 a.m..

On the other hand, from the listener's aspect, the quality of the information is mainly represented by the feedback of the listener. We suppose that the speaker is able to understand the information he has correctly and he can also code the message in a right way, and then, if the listener's feedback is positive, which means the feedback conforms to the speaker's true

idea or has advantages of approaching the speaker's true idea in the next communication, then the information finishes its communication mission and the value of the information would accomplish with high degree, at the same time, the quality of the information is relatively better to the listener. If the listener's feedback is negative (the feedback is different with what the speaker wants to convey) or null (the feedback is not aimed at the information the speaker has sent but just a reply from the politeness or a shift to a new subject), then the value of the information would accomplish in a low degree and the quality of the message is not so good as the former situation. To the listener, the quality of information has a close relation with the value of the information. The symmetry of the quality requires balance both on the information itself and the feedback.

The symmetry of the quantity just implies that both sides have received the same amount of message. The most significant parts—decoding and feedback—reflect that different listeners have different capability when they deal with the same message and that would cause the different quality of the information. If we want all the participators in the communication to reach balance on the information the speaker has sent, the decoding and the feedback is two indispensable sectors that we should consider, because the ideal state of information symmetry is all the participators in the communication have the same information both on the quantity and the quality, that means to accomplish dual symmetry. In that way, the value of the

information among different people can be equal.

### **3. The Analysis of Events that Affect Information Symmetry**

Everything is in a certain state; the change of the state is triggered by events. For a particular linguistic information system, it is enclosed and it has two types of state: symmetry and asymmetry. The events triggering these two kinds of state are also limited. Generally speaking, there are mainly three events: transmission, integration and feedback. We discuss these three events under ideal environment (communication between the parties use the same language; they desire to communicate; and they have no conflict of interest for this can make sure that both sides can exchange the information completely without conceal some main factors deliberately, which means that all the participators in the communication can share the information totally) as follows.

#### **3.1 The Transmission of Information**

The information asymmetry is the driving force of communication(Wang ,2005 , p. 43-45). The exchange of Information is a process that learning from others and it can make up deficiencies in one's information bank. The occurrence of information exchange is to alter the state of information from asymmetry to symmetry on quantity among people in the communication. The symmetry of the quantity is accomplished when the speaker has sent out the information to the listener. Ideally, the speaker's information will be received completely by the listener. At this moment, the distribution of information in the participants of the communication is identical. Then the speaker and the listener

have reached a state of equilibrium both in the quantity and quality of the information. After receiving the information, the listener has to integrate it with his original information bank.

### 3.2 The Integration of Information

The information that every person possesses is incomplete. The time and energy is limited for all of us; and it is impossible to grasp everything in the world. Everyone only has the information or knowledge on those fields or things that he is familiar and may know nothing about others out of this range. Therefore, each of us is in a relatively closed information state and only gets the familiar things without effort. In other words, the information structure in everyone's information bank is unbalanced, that is, some people may have more information about natural science while others may have more information in social and humanity sciences.

Compared among listeners, we find that the compatibility is varied in different listeners or in different information bank when the linguistic message sent by the speaker integrates into the original information bank that the listener has. For example, a speaker has sent a message: "The oil price is up." The compatibility is very strong to the car owners, because there is much information about oil price and car in their information banks so this message is quite compatible with the original database. He can use this information to make judgment, give feedback and so on, which implies that the value of this information is accomplished in a high degree. But if it is transmitted to a person whose life has no connection with oil directly, the compatibility of this information may not so good, for there is little or even no information about oil in his original information bank. The message for

him might be useless, and naturally, it is with little value to him.

Compared between the speaker and the listener, we observe that when the listener integrates the message sent by the speaker in his information bank, it will create a new kind of information asymmetry. One of the reasons is that the two sides in the communication have different information bank and that will bring about diverse integration levels of the information. What's more, the information could find its balance point only in the process of flow. Once it is integrated into the listener's information bank, it is temporarily in a static state, and would not be able to find its balance point between the speaker and the listener. Thus, by triggering an integration event, the relative symmetry state that formed after the speaker transmitted the information has been broken down, and a new information asymmetry comes into being. Considering the message that the speaker has sent, this new asymmetry is likely inclined to keep the original direction, which means that the speaker still holds the advantage side of this information. Nevertheless, it might cause a change in the direction: the information has a much better compatibility in the listener's information bank than in the speaker's. So the listener endow the information more value by integrating it with his database. The listener then takes the advantage side by hold the information high ground.

However, if we view from the point of speaker, we will find another kind of symmetry. In the normal communication, when the speaker sends out a message, he always looks for responses from the listener. The process of expecting is also the procedure of the information integrates with the listener's original database. Though the message sent by the speaker may not be compatible with the listener's information

bank, he still expect the listener's feedback, whether the feedback is positive, negative or null, in order to complete an exchange of information. Nevertheless, the speaker does not really know the integration degree of the information he sent to the listener and he is not aware of what kind of feedback the listener will give. So the listener's attitude or feedback, which is called the second information (the message send by the speaker is the first information), becomes the speaker's unknown information. In the second information, the two sides are always in a state of asymmetry, the speaker is the underdog.

### 3.3 The Feedback of the Information

When the listener has integrated the message with his own information bank, he has to give a feedback, which is a symbol of finishing a process of conveying a message. Feedback is a new trigger mechanism and a brand new event. Under the ideal situation, the aim of the feedback is to alter the asymmetry situation which has been made by the integration event to the symmetry again. The feedback can make two kinds of balance:

In the first place, the second information will become symmetry. The listener gives the feedback of the information sent by the speaker, which would satisfy the speaker's expectation and change the inferior position of the speaker on the second information. This kind of balance is a necessity in a successful linguistic communication.

Then on the message which has been sent by the speaker (namely the first information), the two sides may accomplish the symmetry, though it is not a necessity. If the feedback of the listener is what the

speaker expected, then the two sides can reach symmetry on the information in this intercommunication process; and what's more, it is dual symmetry on the quantity and the quality. If the listener is in a superior position in the integration event, then the feedback can make the distribution of the information in both sides to accomplish another kind of symmetry. The symmetry here is also a dual symmetry, but not completely equal to the former one. The symmetry here indicates, on one hand, the information sent by the speaker (the first information), on which the speaker and the listener can reach the balance both in the quantity and quality. On the other hand, because the listener takes up the superior position in the integration event, actually, his feedback including some new information which is unknown to the speaker. So through his feedback, the new information will be sent to the speaker and the two sides can reach symmetry again in the quantity of the information.

Yet, in the process of integration event, if the listener is in an inferior position, then the feedback would not lead to the balance of the information distribution. The listener, especially one whose information bank is completely incompatible with the new information, will hardly reach the state of information symmetry with the speaker in a short period of time. In this case, the listener will probably lose his interest in this information and just give a simple polite feedback. For instance, concerning the above information about the oil price, the listener may probably just provide some polite responses like "Oh, yeah." or "Is it?" and something like that. It is possible that

the listener can achieve the information symmetry with the speaker in a limited range through several times of transmission, integration and giving feedback. This applies to the situation that the new information is compatible with the listener's original information bank, yet this compatibility is weaker than the speaker's.

#### 4. The Analysis of Noises in Decoding Process

##### 4.1 Classification of Noise

In the analysis of above, we take every part of the message sent by the speaker as useful information. In fact, when the message reaches to listener, it is not always pure. As not all the water is out of impurities, some information contains noises. The listener should pay attention to these noises when decoding the linguistic message.

In certain information, noise is the generalization of those parts which do not include the target information. According to the different attributes, in communication, we can classify the noises lies in the linguistic messages into two categories, the primary noise and the secondary noise. The primary noise, which occurs in the coding process, is intentional. Instead of conveying the information directly, the speaker uses a roundabout way to code the message and this method has some subjective features. The secondary noise is random, which means that the speaker does not intend to cause it. It might emerge inadvertently in coding time, or occur in decoding process because of the impact of the listener's original information bank.

##### 4.2 Noise and the Transmission Efficiency of Information

Noise may reduce the transmission

efficiency of the information. For example, the speaker has the accent that the listener cannot understand:

*goi saai nei,*

(唔该晒你。)(*xin bian shi yong yue yu jiao cheng, 2006*)

This is a Cantonese, and it is not easy to understand accurately what it wants to convey if the listener is unfamiliar with Cantonese. Then this accent becomes a noise. However, the Cantonese-speaking people can easily understand that this is a message of gratitude and it means "thank you very much".

Another example:

*People who drink eight ounces milk everyday have much less chances to get colon cancer than those who drink less than two cups of milk every week.*  
(*ai zheng kang fu, No.2, 2005*)

The "ounce" in this information is a noise for people who is not familiar with imperial units of weight. One more example, during the reign of Emperor Yong Xi of the Song Dynasty, once there was a person who called himself "the Poetic Sir" wrote a poem as follow:

*A one monk came home alone, shut the door closed the entrance and made the gates unopened. In the midnight, at the third watch of 12 o'clock in the evening, the cuckoo, coucou and Kukushka were singing.*

(*Yi ge gu seng du zi gui, guan men bi hu yan chan fei. Ban ye san geng zi shi fen, du juan xie bao ti zi gui.*)(*FENG Menglong gu jin tan gai*)

(一个孤僧独自归，关门闭户掩柴扉。半夜三更子时分，杜鹃谢豹啼子规。)(冯梦龙《古今谭概》)

This poem is a typical long-winded poem. The poet used the synonyms to repeat one point in each sentence. These duplicates are noises for the target information that a monk came home alone and he closed the door, and in the midnight, the cuckoo was singing.

In these three examples, the noises in the first two have caused difficulties in receiving and decoding the message, and that is to say the noises have altered to interference. However, this kind of change does not happen in the last example, for the noises in example 3 have no effect on the listener's comprehension. There are noises in the linguistic message, but the interference does not necessarily exist. Whether an element in a piece of information is a noise or interference, listeners with different information banks have different opinions. The dissimilar scale of personal information bank results in the diverse noise or interference immunity. Therefore the noise and interference does not have universality but pertinence among different recipients.

Noise may reduce the transmission efficiency of the information, but there is no necessary relation between them. Code aims to pass the information to the listener as soon as possible with high quality of it. Sometimes integrating the primary noise into code is a roundabout way in order to ensure the quality of the information and to make it reach the specific listener effectively and securely. Acrostic poem is one of the typical examples. For instance, in the Luzhou opera, there is a famous scene about LIU Wushuang and her cousin. When their marriage was against by her father, wushuang wrote an acrostic to her cousin

WANG Xianke:

*zao zhuang wei ba an ning mei, ying hu  
chou kan zi yan fei. Wu li hui tian chun  
yi lao, shuang qi hua dong bu ru gui.*(*早  
妆未罢暗凝眉，迎户愁看紫燕飞，无力  
回天春已老，双栖画栋不如归*).

In this case, she not only avoided her father's blame, but also conveyed her emotion to the cousin, and that was wushuang wanted to get married with WANG Xianke as soon as possible

#### 4.3 How to Reduce the Effect That the Noises Have on the Listener?

From the listener's point of view, how to reduce the effect that the noises have on his comprehension in order to abstract the nucleus from the information and to enhance the quality of it so that the information can accomplish its maximum value that is a question need to be discussed. To enlarge the listener's information bank for the sake of expanding his immunity is the fundamental method; but at the same time, it is a method that requires high costs and the speed is quite slow. Some other methods, which are helpful to abstracting the useful information and raise its value, exist in solving this problem and they are easy to handle. We will list two of them below.

The first one is to abstract the information selectively. The listener need not receive the information that the speaker sent to him as a whole for not every word about the information is useful to him. Different people have different interests about the information. What the listener needs to do is to abstract the information from his own interests and neglect the others as noises. For example, the next paragraph is what DING Xiaoming said to his elder brother when he went home from school.



*Brother, there was a sad thing happened in our class today. Tomorrow we will have a basketball match with class two, and LIU Wei can not play that'll be an effect on our class. My desk-mate LIU Wei is our monitor, he is good at study and he took the first place in every examination. He is also the leader of our basketball team as well as the leading player of the first half. In the sports meeting, he was the dash champion of our school, he was like flying in the finals, and I was not able to pass him anyway. Today the third class was physical education, the teacher tested the 100m dash, every six person formed a team; every team had two opportunities, and finally chose the better one as the result. LIU Wei and I were in the same team, he was faster than me 0.3 seconds in the first time. In the second time, he was also the fastest, but when he began to sprint, he tumbled. So his foot was hurt and swelled. Finally, I got the first place. Originally, we have the confidence to win the basketball game, but now it is might be a dead heat, and everybody is worried about it.*

This information conveyed by DING Xiaoming is far behind orderliness and the nucleus is not so clear. But his brother could receive it selectively: if he wants to know what has happened in his younger brother's class today or something about LIU Wei or the 100m dash result of Xiaoming, he just need to pay close attention to those information that interested him and the others can be omitted.

Furthermore, people in different understanding level have different capability

to comprehend and use the same information. The so-called understanding level, which has the differences of superficial, middle or deep, is the level that the listener can achieve when comprehending the message that the speaker sent to him. It is closely associated with the information bank and the intelligence of the listener. No matter what kind of understanding level it needs about the information sent by the speaker, the listener just need to grasp the most useful information from it according to his own level, and then to integrate the useful information with the original information bank well, the information would bring the best value under the corresponding circumstances. Take example 2 speaking, if the listener does not know how many eight ounces are and has no sense of colon cancer, he can also understand the superficial meaning of this message that is drink some milk every day is good for people.

Secondly, we can use feedback to identify noises. The listener can send feedback by using the information he has already understood in order to get more explanation and introduction about this message. Then he can reexamine and decode the information further, in that way, the listener is able to reject even more noises and interference to approach the target information. Let's get down to example 2:

*A: People who drink eight ounces milk everyday have much less chances to get colon cancer than those who drink less than two cups of milk every week.*

*B: What is ounce?*

*A: Ounce is the British measurement.*

*B: How about the conversion between ounce and gram?*

A: 1 ounce is equivalent to 28.350 grams.

B: I see. That means one should drink 200 grams milk every day.

In this example, B obtained more explanations about this information from A by asking him two questions, which has helped him to remove the noises that do harm on his comprehension. Change ounce to gram is a method to make it easier to receive and understand the information sent by A; and to the listener's speaking, it is also helpful to accomplish dual symmetry on the

quantity and the quality with A.

## 5. Conclusion

Information symmetry or information asymmetry has been discussing deeply in many fields. The asymmetry lies in the linguistic message or the process of conveying information in the linguistic field is just in the initial stage and there are a lot of problems need to solve. This paper discussed the decoding and feedback of the linguistic message under the information asymmetry briefly. We want to use the little to get the big in this field.

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