

### Episode 1 PMD Method and nodding when trying to understand something

When we understand things, we nod vertically (with the exception of a few ethnic groups). In order to nod, we must move our head up and down. The question is in which direction we nod first, up or down. Close observation shows that the answer is both. When we understand the purpose, we nod downwards, "Yes, it is." When we understand the measure or meaning, and see how it is related to the purpose, we first nod upwards, "Oh, I see." This shows that we have the ability to immediately distinguish between purpose and measure. What does this mean?

The author's hypothesis is this: When we recognize the theme of the conversation as purpose, we try to memorize it in the upper front part of our brain by nodding downwards. However, when we recognize the theme as meaning or measure, we try to memorize it in the lower back of the brain by nodding upwards.

According to brain physiologists, information concerning purpose is stored in the upper front half of the brain, and information concerning measure or meaning is stored in the lower back of the brain. Our observations support this explanation. From this, we further hypothesize that PMD draws out the information contained in these two portions of the brain and organizes it on paper.

Given the above assumptions, the question arises of where the boundary between nodding up and nodding down exists. The answer seems to be at the level of the Key Word. This seems to be consistent with the fact that we move our heads forward instead of nodding when we hit the Key Word or acknowledge "That's the one!" The fact that the Key Word appears in the middle of the PMD seems to utilize this mechanism in the brain.

(Note) When the author presented this hypothesis in the two meetings given in the references, he was asked why others had not come up with this hypothesis before. He suggested that his approach of observing the phenomena by asking the questions "In order to do what?" and "How to do?" rather than asking "Why?" led him to the hypothesis.

#### <References>

- [1] Esaki.M. Sexual Differences in Transmitting and Accepting Images and Its Practical Use for Creation, Proceedings for 3rd International Imagery Conference, Fukuoka, July 25 (1987),
- [2] Esaki, Michihiko. Imeeji no Juhashin to Shikou no Kuse nitsuiteno Seisa Jijitsu to sono Souzouteki Ouyou (Sexual Differences in Image Reception/Transmission and Order of Thinking,

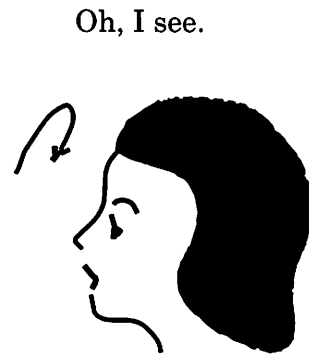
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**and Creative Application of these Facts) Proceedings of Japan Society of Creativity, Tokyo, Oct. 1987.**

Episode 1, Fig 1



When you understand the purpose you lower your head first.



When you understand the measure or meaning, you raise your head first.

Episode 1, Fig 2



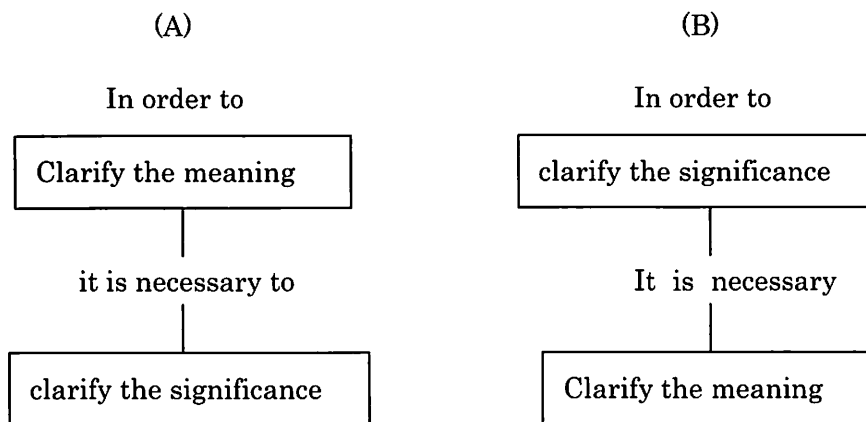
When you understand or identify the keyword, you don't lower your head or raise your head.

## Episode 2 Using the the PMD Method can be used to investigate language

There are words in casual use which become vague if they are not properly used. For example let us consider "significance" and "meaning."

If we are asked what the difference is between them, we may not be able to immediately reply. A simple way to distinguish them is to create a PMD (Purpose-Measure Diagram).

Following the routine of the PMD Method, we connect the two words according to the structure "In order to do something, it is necessary to do something." That is, we write



If we compare these two expressions, (A) is more apt. As a result, we see that "significance" is the purpose, and "meaning" is the measure. We may try another experiment. We write the words in sentences. For example,

(A') In order to clarify the significance, it is necessary to clarify the meaning

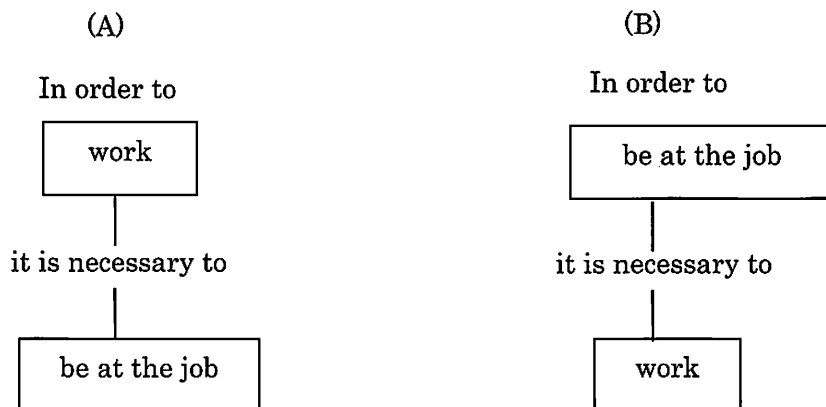
(B') In order to clarify the meaning, it is necessary to clarify the significance

(A') makes sense, but (B') also seems to make sense. The distinction is less clear than in the block diagram. Why is this so? The relevant observations are:

1. The Sentences (A') and (B') are linear, but (A) and (B) show the two-dimensional structure of thought.
2. To obtain the image of (A) and (B) from (A') and (B') requires significant effort.

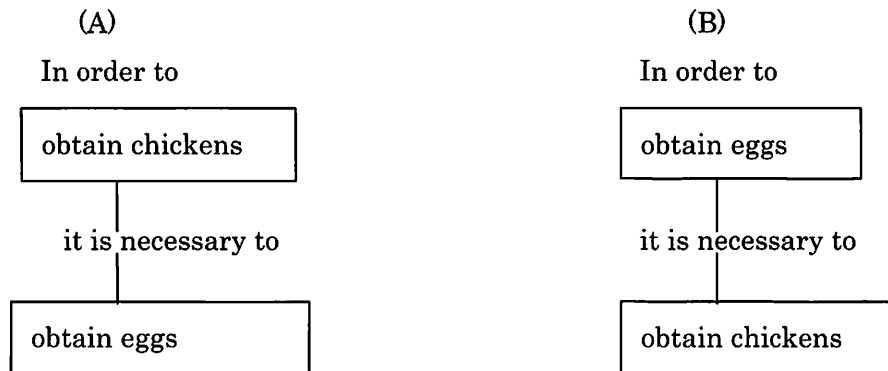
From the above, we see that the PMD Method connecting cards in an "In order to do what?" - "How to do?" sequence is useful for the study of language. Similar words may be distinguished by

determining which is purpose and which is measure using the PMD method as a tool for the analysis of language. If such a study is developed, it may even lead to the creation of new words. Question: Which is more apt? (The answer is at the end of Episode 3)



**Episode 3 PMD Method can clarify "chicken or egg?" relationships**

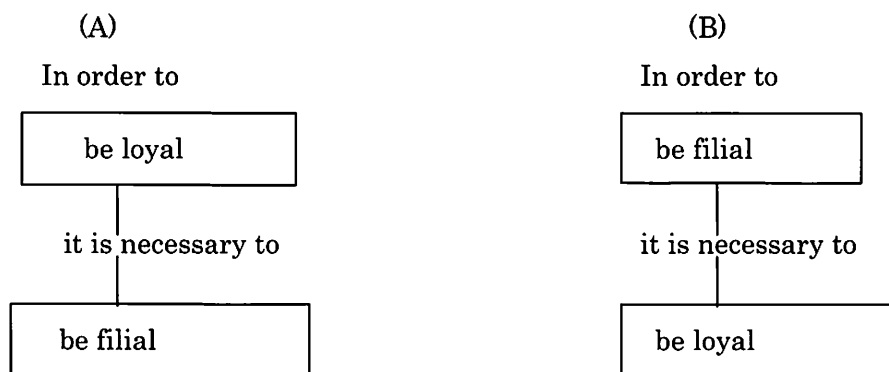
When arguments go round and round in circles, we can say it has become a chicken or egg problem. Such problems arise when it is unclear what comes first in a causal relationship. Let us try to clarify such relations by constructing a PMD. We have



Comparing the two, (B) is more natural. If we have a hen and rooster, we can expect to obtain eggs, but we need additional chickens or incubators to obtain chicks from eggs. Therefore, (B) is the desired answer, provided "obtain chickens" is rewritten as "obtain hens and roosters."

(Note 1) From the above, we see that the conventional way of posing the problem is ambiguous, whether the predecessor is in terms of procedure or purpose. The PMD makes clear which is expressed. Let us look at another example. (See Note 2).

Let us consider the old dilemma "To be loyal means to be unfilial, and to be filial means to be disloyal" using a PMD. We compare



We see that (A) does not make sense. We also understand that being loyal and socially accepted

is a means of being filial. Therefore, being filial is more important, and loyalty can be ignored if the need should arise.

(Note 2) With PMD, we see that the conventional, "what is the most important" has the following 4 meanings:

- (1) as an abstract higher level purpose;
- (2) as the desired result;
- (3) as an entrance through which to proceed;
- (4) as the weightiest element in the desired result.

Answer to Problem (Episode 2): (B)