Discussion of Stalking Behavior using a Conscious System

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Abstract
Stalking behavior, characterized by specific and dreadful acts such as persistent following, repeated sending of unwanted gifts, lack of sympathy, and even willingness to kill the victim, has become a serious concern in modern society. However, since stalking behavior has something partly in common with any criminal behavior, further discussion of this topic is considered helpful in determining factors behind various criminal behavior. Thus, there is an urgent need to investigate how this mysterious and dangerous behavior arises. There are three main types of stalking behavior: "rejected," "resentful," and "other (intimacy seeker and incompetent suitor)." First, we focused on a conscious model of the rejected type, as it is considered the most typical. The artificial conscious model is built to represent a process in which a conflict of concepts arising in the Reason Subsystem is progressively reconciled by the Association Subsystem.

Keywords: conscious system, stalking behavior, rejected type, conflict of concepts, association subsystem

1 Introduction

Modern artificial intelligence is a system that generates simple responses that are convenient for users. When robots have a mind similar to that of humans, there will be pleasant communications, including emotional ones, between robots and humans, but like humans, there is a possibility that such robots may commit a crime. Therefore, we need to create an environment that prevents robots from committing crimes as artificial intelligence becomes more sophisticated. But why do people engage in criminal behavior? In this study we firstly describe stalking behavior, which has much in common with many other crimes, and then clarify the mechanism of consciousness.

In the following chapters, we examine what stalking behavior is, and based on the findings, deepen our understanding of the stalker's consciousness. Then, we investigate actual stalking cases in detail and describe the stalker's thought processes by mapping them to a conscious system using consciousness modules (MoNADs).

2 What is Stalking Behavior?

Before discussing the conscious system of stalkers, we need to clarify what stalking behavior is. Stalking no longer refers to just following someone; the spread of Internet communication such as Social Networking Service (SNS) has made information more accessible, and stalking behavior has also diversified. Although there are various definitions in the literature, in this paper we follow the "Diagnostic and Statistical Manual of Mental Disorders (DSM)" (American Psychiatric Association. 1994) issued by the American Psychiatric Association (APA) to meet our objective of constructing the conscious system of stalkers.

Based on the APA's DSM, stalking is characterized by a constellation of behaviors that
1. are directed repeatedly towards a specific individual (the target),
2. are experienced by the target as unwelcome and intrusive, and
3. are reported to trigger fear or concern in the target (APA. 1994).

2.1 Types of Stalkers

Although stalking is characterized by various behaviors as described above, there are also various types of stalkers who engage in such behaviors. Paul E. Mullen et al. proposed three categories of stalkers – the "rejected," the "resentful," and "others" – on the basis of the stalker's motivation, the context of emergence, the relationship with the victim, and the history of mental disorder.

2.1.1 Rejected stalkers
The characteristics of rejected stalkers are:
1. Pursuing an ex-intimate (husband, wife, lover, etc.).
2. Aiming at either reconciliation, or exacting revenge for rejection, or a fluctuating mixture of both.
3. Maintaining, by stalking, a relationship to the target, although indifferent to his or her suffering and damage (Mullen, Pathe and Purcell, 2008).

Compared with other types of stalkers, rejected stalkers engage in a wide variety of stalking behavior, such as phone calls, letters and loitering, and the duration of stalking is the longest. Though caught up in the pursuit of their ex-partners, when confronted with criminal penalties for continuing their pursuit, many are able to stop. This indicates that rejected stalkers have difficulty in calculating their own advantage and the suffering of the victim. Examples include a woman who was unable to accept her husband's decision to end their marriage and made unwanted visits to her husband at his workplace and his flat. Another case is a man who made repeated approaches to his estranged wife at her parents' home pleading for a reconciliation and snooped around in the house, and kept sending her gifts (Mullen, Pathe and Purcell, 2008).

2.2.2 Resentful stalkers
The characteristics of resentful stalkers include:
1. Stalking is intended to cause fear and apprehension in the target.
2. Stalking emerges out of a desire for retribution against an individual, whom the stalker believes has personally, or as a member of some group or organization, harmed them.
3. Resentful stalkers usually gain a satisfying sense of power and control from their harassment of the target.
4. Resentful stalkers almost invariably feel justified in their actions and present themselves as victims fighting back against overwhelming odds (Mullen, Pathe and Purcell, 2008).

Resentful stalkers are more likely to commit threatening behavior than other types of stalkers, but less likely to resort to actual violence. When confronted with legal penalties, this type of stalker is often persuaded to refrain from further stalking, indicating that they are able to calculate their own

advantage. Examples include a man who made repeated phone calls and sent veiled death threats to a woman who had rushed in front of him on the street when he was walking through a business area, after learning that a job application in which he had invested great hope had been unsuccessful. Another case is a man who lost his wife to cancer and made unwanted visits to a doctor at her clinic, who had been unable to communicate her diagnosis to the patient, and berated her with unfounded allegations (Mullen, Pathe and Purcell, 2008).

2.2.3 Other types of stalkers

These types of stalkers are generally classified as intimacy seekers, incompetent suitors, etc. Their characteristics include:

1. Male gender(Mullen, Pathe and Purcell, 2008).
2. Stalking is intended as preparation for assault, usually sexual, upon the victim.
3. Stalking is a combination of information gathering, rehearsal, intrusion through surreptitious observation and the exercise of power.
4. In most cases the stalker's intent is not to disturb or alert the victim prior to the fantasized or planned attack (Mullen, Pathe and Purcell, 2008).

Associated features may include:

1. The stalker often demonstrates deficiencies in self-efficacy and interpersonal relationships.
2. Stalking behaviors do not always express their sexual origins.

In Japan, these types of stalkers are classified as predatory stalkers.

These types of stalkers consist predominantly of paraphilias, most likely to have a criminal history of sexual assault involving violence toward the victim. However, the duration of stalking by these types of stalkers is significantly shorter than that of any other types, and they have a very limited range of methods such as following, surveillance, and phone contact. Case examples include a man who was attracted to a local woman and followed her on foot and by car, and after locating her home telephone number, made a series of obscene calls to her. Another example is a man who followed students in his car on several occasions as they walked home from school, and eventually followed them into a police car park (Mullen, Pathe and Purcell, 2008).

3 Conscious System of Stalkers

The previous chapter described three types of stalkers. The authors thought that rejected stalkers are the most interesting type for us, so we focused it. I because they have many characteristics that can be associated with the conscious system using MoNADs.

3.1 Cause of Stalking

Before constructing a consciousness model of stalkers, it is necessary to clarify the cause of stalking behavior.

We investigated common factors contributing to the above-mentioned two cases of rejected stalkers.

The first case is a woman who, unable to accept her husband's decision to divorce, engaged in stalking. She had felt inferior to her sisters. After falling in love with her future husband at first sight, she made many efforts to win his hand in marriage, to which he eventually succumbed. When her beloved husband raised the subject of divorce, she could not accept it and engaged in stalking behaviors such as unwanted visits to her husband at his workplace and his flat.

The second case is a man who made frequent unwanted visits to his estranged wife at her parents' home. He had a history of problems with women at school and workplaces, and in each case he resorted to stalking when his invitation for a date was rejected.

Each case of stalking seems to have been caused by an unexpected rejection by their significant other with whom they had built a relationship despite their inherent complex about themselves or feeling of inferiority to others.

We refer to such unexpected "shock of rejection" experienced by the stalker as "emotional emptiness." Behavior that is repeated to resolve the emotional emptiness seems deeply related to stalking behavior.

3.2 Conscious System of Stalkers using MoNADs

In the normal conscious system, an input (Fig. 1 In1) is sent to the Reason subsystem and to the Emotion & Feeling subsystem and then settles in the Association subsystem (Takeno, 2011). Essentially, the conscious system learns to generate a quick and stable output in response to an input. If unable to generate a stable output, the conscious system develops on its own so that a subnetwork in the Reason subsystem or Association subsystem can generate a quick and stable output (Matsunaga and Takeno, 2016) (Sekiguchi, Ebisawa, Takeno, 2016) (Arai andTakeno, 2017). The "quick and stable output" here refers to an output (Out1 in Figure 1) for which it takes a short time for the conscious system to process the input (In1 in Figure 1) with few representations of unpleasant feeling (UP in Figure 1). Although the processing time and feeling are directly related to each other (Takeno, 2011), we do not go into detail here.

In describing the conscious system of stalkers, we have assumed that there is a specific kind of development in the system structure (Figure 1). Suppose a situation in which Association unit A, which has an experience (r1 in Figure 1) full of pleasant (P in Figure 1) information linked to another representation F of a person, was subjected to an experience of being rejected by F. Here, F is linked to two experiences, r1 and r2, and the experience of being rejected is linked to unpleasant (UP) information. At this point, Association unit A comes in contact with pleasant (P) and unpleasant (UP) information simultaneously in the Reason subsystem because Association unit A is in contact with the other person F through experiences r1 and r2. Then, the conscious system behaves in a way to reduce the unpleasant feeling evoked by stimulation of external stimulus In1 or recollection of experience r2.

Under repeated unpleasant feelings associated with the other person F, the conscious system gradually develops a new association unit, B, to engage in the unpleasant feeling originating from F. This situation, however, would end up causing the conscious system to split itself (split personality); it develops yet another association unit, C, to make a settlement between Association units A and B. Association unit A engages in recognition and behavior in association with the pleasant information linked to the other person F while Association unit B engages in recognition and behavior in association with the unpleasant information linked to F. Association unit C makes a settlement between Association units A and B. However, it would be very difficult for Association unit C to manage to generate a pleasant feeling in every situation the system encounters because within the conscious system, Association units A and B always end up in conflict with each other. The conscious system will behave in a way to draw pleasure again from the past pleasant experience associated with F; however, the representation of F evoked by that behavior always links to unpleasant information or causes an unpleasant feeling. In response, the conscious system repeats the same behavior to turn the unpleasant feeling into a pleasant one, but only to have unpleasant information again, thus becoming trapped in a vicious cycle. In the conscious system, every behavior intended to lead to a pleasant experience in association with F invariably results in an unpleasant outcome. Even though its behavior toward the other person F now does nothing but cause an unpleasant outcome, the conscious system still cannot stop the pleasure-seeking behavior because the pleasant information linked to F cannot be entirely deleted.

Is there any way to stop this vicious cycle of pleasure-seeking behavior causing unpleasantness, and unpleasantness in turn causing pleasure-seeking behavior?

There is one, which is to develop another subsystem (r3) that enables the conscious system to recognize how the other person F feels and to learn (understand) it as its own experience. Although difficult to explain, the word "understanding" here means an experience of learning to recognize the other's feeling as its own, just like mirror neurons imitate the behavior of the other. The mechanism of development of such understanding is not yet well understood. However, a stalker has been reported who, when she herself was victimized by another stalker and experienced the victim's feelings (e.g., fear), realized what a merciless stalker she was and subsequently abandoned her stalking behavior (Mullen, Pathe and Purcell, 2008).

The above argument suggests that stalkers are less self-aware than the general population. If they were highly aware of themselves, they would be able to recognize the difference between themselves and others. Stalkers are incapable of it, only believing that what feels "pleasant" to them must also be "pleasant" to their victims. We suppose that such immaturity in self-awareness makes it difficult for stalkers to imagine the other's emotional pain as their own suffering. Association unit C, which connects Association units A and B, generates an abnormal output, or stalking behavior, to force the issue to resolution. In a typical scenario, a stalker who is persistently following the target is attempting to seek the pleasure of being with the target while avoiding the unpleasantness of being unable to be with the target, which is a stalking behavior.

Based on these findings, we refer to this relationship between Association units A and B as "emotional emptiness," and speculate that the root cause of rejected stalking originates from behavior intended to fill this "emotional emptiness."
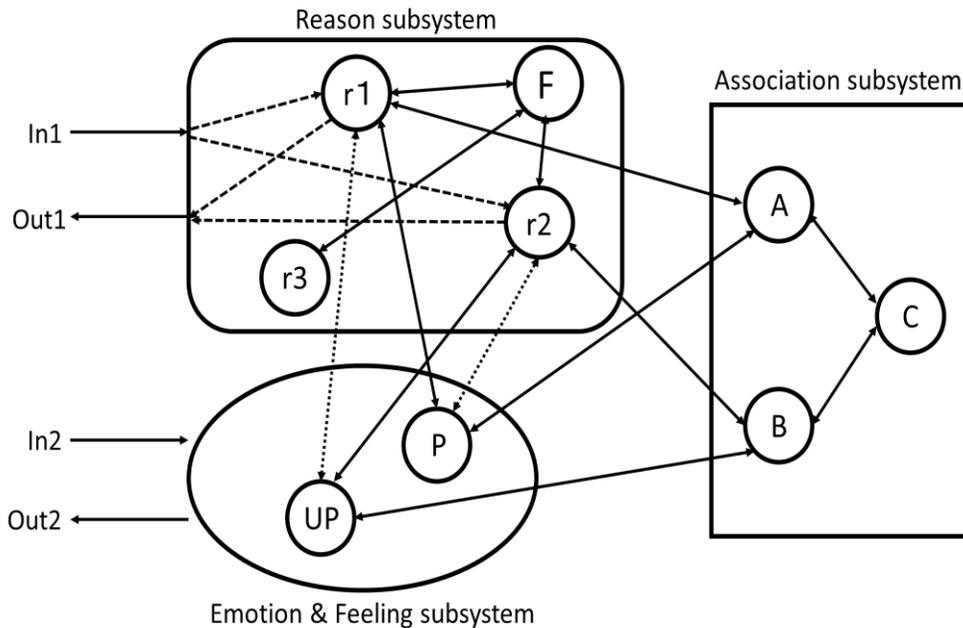

Figure 1. Diagram of a conscious system that describes the rejected stalker's behavior

3.3 Conclusion

In this chapter, we classified various stalkers into three types and specified their respective characteristics to describe the conscious system of stalkers. Based on the results, we concluded that the

factors causing rejected stalkers to engage in stalking behavior are the "emotional emptiness" arising from the "experience of being rejected" and "immature self-awareness." Finally, we represented this status in a conscious system using MoNADs and compared it with the normal conscious system to elucidate the abnormal behavior, or the principle of stalking behavior.

4 Future Challenges

We will reproduce in a computer program the conscious system of stalkers using MoNADs described in this article, and, by conducting an experiment using a robot, aim to clarify the stalker's consciousness. Although the focus of this study was confined to rejected stalkers, when a consciousness model for rejected stalkers is completed, a similar discussion will be made on resentful and predatory stalkers to construct their consciousness models.

References

American Psychiatric Association. (1994). *Dsm IV: Diagnostic and Statistical Manual of Mental Disorders.* Amer Psychiatric Pub.

Arai, K. Takeno, J. (2017). *Discussion on the Rise of the Self in a Conscious System.* (in printing)

Matsunaga, T. Takeno, J. (2016). *Color Vision Consciousness System Capable of Additionally Learning New Knowledge,*.BICA

Mullen, P. E., Pathe, M. and Purcell R., (2008). *Stalkers and their Victims*. Cambridge University.

Sekiguchi, R. Ebisawa, H. and Takeno, J. (2016). *Study on the Environmental Cognition of a Self-evolving Conscious System*, BICA

Takeno, J. (2011). *MoNAD structure and self-awareness*. Biologically Inspired Cognitive Architectures.