Memory Manipulation and Personal Identity

Introduction: Social contexts

PTSD has come to be recognized as a social problem in Japan. Propranolol seems to make it come true. Memory manipulation or memory erasure causes ethical problems, however. The basic ethical problem about memory manipulation is the criterion for personal identity. Fortunately, using propranolol does not threaten psychological continuity and it only dampens a link between memory and emotion. But we need to pay attention to such new technologies more carefully to keep personal identity.

Current researches

Propranolol dampens emotional parts of memories

Propranolol dampens a link between memory and emotion. Using propranolol, long-term memories are processed with affective response. Using propranolol, long-term memories are processed in a different way from the way long-term memories are processed by normal emotion. Using propranolol, long-term memories are processed in a different way from the way long-term memories are processed by normal emotion.

Four ethical problems are caused by using propranolol

(1) Authenticity

Happiness might be a precursor of well-being. Living with pleasant memories and learning from these pleasant memories are parts of the well-being. It is a necessary condition for using propranolol to be psychologically normal. From the viewpoint of personal identity, it is possible that propranolol influences the process of remembering the past.

(2) A social demand for memory conservation

Happiness which is based on individual memories has material value as common to all humankind, and we are responsible for conserving our memories even if they are uninteresting to others. Using propranolol, people can erase memories, and it is not ethical to save memories for others.

(3) Autonomy and social justice

The Council (2003) noted that we cannot be blinded to the potentially immoral uses—by other individuals and for the state—of biotechnological interventions that alter how we remember and what we forget [5]. Because of reminiscences, our memories might tell stories to us.

(4) Personal identity

Erasing memory using propranolol can threaten personal identity [6].

Personal identity and memory erasure

It is important to distinguish between the criterion for numerical personal identity and the feeling of unified self.

From an ethical point of view, the problem of personal identity caused by memory erasure will be important. First, discussion about the personal identity criterion and emotions connected to the topic of personal identity should be examined separately. Second, the aspects of personal identity should be examined separately.

Rapidly altering a memory disrupts a feeling of unified self

Using propranolol, a drug can make a feeling of unified self disappear. In this case, it is important whether memory is altered rapidly or slowly. Rapidly altering a memory disrupts a feeling of unified self, which is an aspect of personal identity.

The criterion for numerical personal identity is the ethically minimum claim

A feeling of unified self or a feeling of personal identity is protected on the criterion of numerical personal identity. So, the criterion for numerical personal identity is an important criterion for keeping personal identity.

Psychological continuity is the weakest criterion

If psychological continuity is a criterion for memory conservation, it is not necessary to save memories. If psychological continuity is a criterion for memory conservation, it is not necessary to save memories.

Using propranolol does not threaten psychological continuity

Using propranolol, people can erase memories but dampens a link between memory and emotion. It affects only an emotional aspect of memory. So, it does not threaten psychological continuity and numerical personal identity.

References


New technologies

U0126 attacks fear engrams

U0126 (4H-1(2H)-imidazol-4-one) is a kinase inhibitor. It is known to erase fear memories. It is thought that the U0126 erases fearful memory rather than simply breaks the link between the memory and the fearful response [11][12][13].

ZIP inhibits PKMζ and vanishes long-term memories

ZIP prevents propranolol from inhibiting PKMζ. It is thought that ZIP does not inhibit the expression of PKMζ. ZIP might be able to erase fearful memories.

Selective erasure of memories of mouse brain via transgenic αCaMKII

It is shown that the deletion of transgenic αCaMKII activity at the time of memory retrieval can cause rapid erasure of memories being retrieved. New and old memories can be rapidly and specifically erased while leaving other memories intact in the brain [14].

These technologies can threaten personal identity and save PTSD patients

New technologies raise issues about personal identity and expectations for using PTSD patients are not yet realistic. But from an ethical point of view, we need to pay attention to such new technologies manipulating memories.

Conclusion

Memory erasure might be the ultimate human desire. Propranolol seems to make it come true. Memory manipulation or memory erasure causes ethical problems, however. The basic ethical problem about memory manipulation is the criterion for numerical personal identity. Fortunately, using propranolol does not threaten psychological continuity and it only dampens a link between memory and emotion. But we need to pay attention to such new technologies more carefully to keep personal identity.