

# Title: 나의 정체성, The Identity theory(2)

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[00:00]

Ok let me summarize what we have discussed last time and move on today's material  
We discussed dualism last week

According to dualism, there are 2 kinds of things in the world, mind and matter

and mind and matter are distinct entities, there are separate entities

According to materialism, all that exists is physical. Only physical things exist in the world,  
only matter exists.

Descartes was a dualist

An immediate question to him was what is the distinction between mind and matter

His answer was matter takes up space, whereas mind doesn't

So matter has physical properties like shape, size, mass, location and motion

and mind have none of these physical properties

손유성's objection for Descartes distinction between mind and matter was

That a person loses weight a little when he dies

So mind has a mass

Descartes was also interactionist According to interactionism mind and body causally interact  
each other

These are examples illustrating interactionism

There was a challenge to Descartes's position. He believed mind and matter exists

mind and body exists and they interact each other

The challenge was, if something does not have energy, it cannot move another thing,  
mind does not have the energy, therefore mind cannot move the body

$E=mc^2$ ,  $E=1/2mv^2$ , or  $E=mgh$

These equations show that if mass is zero, so as energy

And mind does not have mass therefore mind does not have energy,

So, mind cannot control body

이다정's reply to the challenge was that these mathematical equations, scientific laws,  
are applicable only to physical objects

They cannot be applied to mind

안국문's reply was there might be a kind of energy, mental energy that current science has  
not discovered.

정영신's reply was that a photon does not have mass. And yet, it has energy.

So it is possible that mind has energy although it does not have mass

In any event some thinker advocated Epiphenomenalism

According to which, mind cannot causally affect body, although body can casually affect mind

So mind is like a shadow, mind does not have any power on the body

Then, what is it? That controls our body?

According to Epiphenomenalist, it is your brain not your mind that controls your body

And Huxley, a famous biologist was an Epiphenomenalist

Epiphenomenalism is kind of a dualism

Huxley believed that mind and matter exist

and mind cannot casually affect the matter

Descartes was a dualist, he believed that mind and matter exist and they interact each other

Ok let me summarize what we have discussed last time and move on today's material

Physical Replica

Suppose that a genius scientist created perfect replica of me

My physical replica matches me molecule-by-molecule

I and my physical replica are completely, perfectly physically identical with me

Question, does my physical replica have a mind as I do?

The answer might be yes, I attribute a mind to you because you are physically similar to me

And I believe you have a mind because you act as if you have a mind

I believe 백우남 have a mind because he is a human being and I am a human being

We are physically similar with each other

And he speaks language, I speak language. He acts as if he has a mind

So I attribute a mind to him

If I have a physical replica

[05:00]

He is physically similar to me and he acts as if he has a mind

Then I should also attribute a mind to him

The answer might be no

According to dualism, my mind can exist without my body

My physical replica is perfectly physically identical with me

But it does not follow that he has a mind, according to dualism

He might not have a mind

Ok that is what we have discussed last week

Today we'll move on to formal physicalism called the identity theory

There are 3 forms of physicalism in the literature

They are behaviorism, the identity theory, and functionalism

We will not discuss behaviorism and functionalism in this course

We will skip them

Now we will focus on the identity theory today

We are skipping behaviorism because behaviorism is not that popular these days  
and functionalism is a complicated theory of mind

And due to lack of time, I'll skip that

Ok as usual, 2 students will give a presentation today

Today, 박병근 and 김지혜 will tell us about the identity theory

I hope you ask a lot of questions to 박병근 and 김지혜, difficult questions

Anyway, who is the first presenter? 김지혜 Let's begin

Hello my name is 김지혜 I will explain the Type-Identity Theory

This presentation will take about 5 minutes

This is my contents about my presentation

First I will explain about type-identity theory

as all of you already know, type-identity theory is 심신일원론 in Korean

This basically means that mental events are identical with physical ones

In other words, in dualism we can divide I as 2 parts, body and non-body parts

But in type-identity theory, we cannot divide I as 2 parts. Mental things and physical things are same

Now let's move on to the criticism of type-identity theory

The first one is that we don't know about what's happening in our brain

So, thought cannot be the same thing with brain process

In identity theory's view, this is not a serious problem

because we use things everyday, everytime even we don't know precisely what it is

Here we can find the answer of question 2

People don't have to know what is exactly happening in their brain in order to understand their thoughts

The second criticism is properties of thoughts and of brain states

Whenever we think something about specific, it doesn't seem like it comes from the exact same state of brain

And this is weird

Third criticism is all thoughts are about something

That means we can't think about nothing at all, whatever we think that it is about something a brain process doesn't seem like related anything

The first is qualia: what it is like

Qualia is a Latin word that means 특질 in Korean

Finally, individual difference can be criticized

[10:00]

Type-identity theory has an assumption that 2 people can have a same type of thought

But in real case, people think differently with others

As you see, there are many criticisms related with personal characteristics

Then, we can answer for Question 1, as I already mentioned

I can describe a type-identity theory as... this theory says the body and the mental cannot be divided

And in page 67, a criticism for dualism is "Dualism cannot explain interaction"

"Severe brain damage can lead mental deficiency"

In type-identity theory's view that's why the body and non-body part are the same thing

Thought is the process of the brain, so if brain damages the thought can be affected

That is my answer for the Question 1, and that's all what I prepared

Hello my name is 병건 박, and I will talk about identity theorists' reply objection

and this objection is

we can know our thought but we can't know our brain state

So these are not identical.

This is objection so, I will talk about the objection, firstly

Objection has 2 bases, one is

So if I have a thoughts like, "I like apple"

But we can't say that "I like apple" is here or there

And second argument is

So, this is not identical, this is their objection

Identity theorist reply is 'all thoughts are actually brain state'

When I first saw this sentence I couldn't understand it clearly but

now I understand like this

Previous lecture, professor said 비 and 정지훈 is the same person

above that thought and brain state are identical

If thought is 정지훈, and brain state is 비

If 비 and 정지훈 is same, they are in same place...

This sentence means that 비 and 정지훈 is the same, so...

So it is ridiculous to look for 비, when 정지훈 is in front of you

And the second argument is

So objections, abstract things can't have precise location

That means, we can't say thoughts are in brain

We can think regardless of knowledge of brain (processing)

And reply to this, thoughts and brain states are the same

and we cannot know about brain processing

[15:00]

This is end of my presentation

I will explain identity theory in detail

I hope

You raise a lot of objections against the identity theory because that is the best way to

understand the identity theory

백운남, do you know who this guy is?

He is a famous pop singer in this country, 비 and 정지훈

So, this is the name that this guy uses when he acts like a singer

In certain situations, this guy uses this name

In certain situations, the same guy, this guy uses this name, so 비 and 정지훈 are different names for the same person

Another example, Clark Kent, Superman

This guy uses this name, Clark Kent in certain situations and in certain social contacts

And in other social contacts, this guy uses this name, Superman

Now, here, Do we have 2 different people? Or do we have only one person?

What is your answer to my question?

Do we have 2 people? Or do we have only one person?

We have only one person here, only one object

It is wrong to think that we have 2 different people

Keep that point in your mind

It is wrong to think that we have 2 different people, we have only one person.

And what exactly relationship between Clark Kent and Superman

If we closely investigate Clark Kent, he will turn out to be Superman

They maybe appear to be 2 different people

But in fact, they are the same person, they are one in the same person

Lois Lane believes they are 2 different people,

to her, it appears to her that they are different people

but in reality, they are the same person

Ok, 비 is just a different name for 정지훈,

Clark Kent is just a different name for a Superman

Ok Clark Kent and the Superman appeared to be distinct objects,

In other words, **비** and **정지훈** are identical with each other

Clark Kent and Superman are identical each other

Ok this is a plain english, let me use a technical term

Clark Kent is reducible to Superman

and **비** is reducible to **정지훈**, that is an technical term

and there are many reductions in science

Water is reducible to its H<sub>2</sub>O

It is wrong to think that water and H<sub>2</sub>O are different objects

They're one of the same object, just like that Superman and Kent are one objects

If we closely investigate water, if science advances

Water will turn out to be H<sub>2</sub>O

If we closely investigate this guy, he will turn out to be Superman

What is light? Sunshine? It is electro magmatic propagation

Light and electro magmatic propagation, they are not different objects

They are one in the same object

Lightning, Benjamin Franklin in the US discovered that lightning is nothing but a electric discharge

Lightning and electric discharge are one in the same thing, they are no different things

They are not distict things

Ok there are other science reductions too

What is heat?

Heat and the mean connected energy of molecules may appear to be different properties

but in fact they are the same properties



[20:00]

Also what is a gene?

With the advance of science, gene turned out to be a bunch of DNAs

It is wrong to think gene is over here and DNAs are over there

They're one of the same object, just like that Superman and Kent are one objects

Right? OK

And the identity theory is the same thing about the relationship between mind and brain

So, we have a cat here

The cat emits light rays, and light rays hit eyes

As a result, neural signals operated and neural signals travel to the brain via optic nerve, certain chemical reaction occurs

certain neurons activate. And after that, a thought about the cat occurs

A visual perception of the cat occurs

And the identity theory says this thought, this mental state is the same thing as the neural state, the brain state

Mental state and brain state are one in the same state

Just as 비 and 정지훈 are one in the same person and Clark Kent and Superman are one in the same person

and water is reducible to H<sub>2</sub>O

water is reducible to H<sub>2</sub>O, if you closely investigate water, this will turn out to be H<sub>2</sub>O

Analogously, closely investigate mind. It will turn out to be brain

If science advances enough in the future, mind will turn out to be brain

That's what identity theory says

Ok let me take some questions about the identity theory

These are just different follow of identity theory

A mental state is identical with a brain state

A mental state and brain state are one and the same state, If we closely investigate a mental state, it will turn out to be a brain state

So, what is mind? Mind is brain, according to identity theory

Mind and brain are identical with each other

Ok that's what the identical theory says, now let me take some questions about the identity theory

Now is that the content of the identity theory clear?

Ok before that, who proposed identity theory? Who advocated identity theory?

This is what critics say in this book published in 1994

Astonishing I thought, thesis

Mental states are brain states

Crick is one of the discoverers of DNA

was Watson's colleague

So we have an eminent biologist, advocating identity theory

Churchland says

Awareness is mental state

She claims that mental state is nothing but a neural state, not brain

Churchland is a philosopher

Anyway, let me take some questions about the identity theory

황재희?

(student asking)

Students asking; there is one man and he had a car accident and he became a plant human.

Human vegetable, um.

Most of his brains are broken down but he can feel his emotion and think and he can express his mind even though most of his brains are broken down.

So how can identity theorists define about that?

Okay.

Does anybody want to answer this interesting question?

What would identity theorist say to human vegetable case?

Human vegetable is caused by 대뇌 손상.

[25:00]

So all the part of brain is not broken down so some part is related to mind.

Okay. Suppose a normal person is capable of ten emotions.

I can feel hunger, I can feel fear, I can feel sad, I can feel joy and so on.

Suppose I'm capable of feeling ten feelings.

The identity theorist would say that person, the human vegetable is not capable of feeling ten emotions.

He is capable of only one or two emotions, they say.

Why?

Because that person, most parts of his brain are damaged so he is not capable of all the feelings that normal people capable of.

Students asking; So, human's brain is more that part doesn't damaged then he ...he can complete

According to his opinion, I saw that article that a brain consist of components like 간뇌, 뇌하수체, and so on.

But most of mental reaction is related to 대뇌.

But From X-ray picture, most of his 대뇌 are damaged so only 간뇌, 뇌하수체 which is may be necessary to survival are remain.

Okay. Any other questions about identity theory?

Okay. Here's an example about identity theory.

Neuroscientist discovered that stuff called C-fiber activates in our brain whenever we feel pain.

According to the identity theory, pain is identical with C-fiber stimulation

C-fiber stimulation is brain state, and pain is a mental state.

And pain is reducible to C-fiber stimulation.

If we closely investigate pain, if science advances enough in the future it will turn out to be C-fiber stimulation.

If we closely investigate pain, we will see that it is one of the same thing as C-fiber relation.

What we call pain is C –fiber stimulation.

So pain and C-fiber stimulation they are the different name for the same state.

Identity theory is committed to this picture of the mental states and brain states.

There is one to one correspondence that mental state and brain state and one this is a particular mental state equals to the brain state you want.

For example, pain corresponds to b1, and hunger correspond to b2, and b1 and b2 are different chemical state, different neuro-activation parts.

[30:00]

According to dualism, mind and brain are different things.

According to the identity theory, they are one and same thing.

Mind is same thing as brain.

Mind equals brain.

One plus one equals two. Right?

One and one, two, they are same thing.

Similarly, mind and brain are same thing.

If you know the answer to this question, raise your hand.

IF we are identity theorist, does the mind take up space?

What would be identity theorist answer?

Does the mind take up space?

Does mind have physical location?

No? Who said yes?

Explain why you answer as yes.

They claim that mind and brain are same, location of mind is equal to the brain location.

That's an excellent answer.

Mind takes up space according to the identity theory. Because brain takes some space.

Brain is over here inside my skull so my mind is inside skull too.,

Suppose 정지훈 is over here, then 비 is over here, too.

Do you want to say that, 비 is over here and 정지훈 is over there?

If 비 is here, then 정지훈 is here too. 정지훈 is here, 비 is here.

If my brain is here, so is my mind it looks like 박채민 completely understand identity theory.

Next question, psychology is a science of mind.

What should psychologists study in order to understand mind?

Raise your hand if you know the answer.

They should study brain.

Psychologist should study brain, that's all they need to study, that's it because mind is brain.

Question 3, is the identity theory a form of dualism or materialism?

Materialism? Identity theory is committed to this picture and it is a form of materialism.

If you ask him, identity theorist, what kinds of things are there in the world?

He will say. Only matter would exist. Only physical things exist.

What would take to the mind is brain and brain is a physical thing.

If you ask this guy, Crick, what kind of things are there in the world.

There are only physical things exist.

So crick is materialist.

Churchland is a materialist too.

Out of experience, impossible.

Okay. This is a piece of evidence for identity theory.

By the way, what is memory? Memory is a mental state.

What is the memory according to identity theory?

[35:00]

Okay, just information. Where is it stored?

Okay. Physical condition in the brain.

So memory is nothing but certain connections of the nerve cells.

That's what the identity theorist says.

What is memory?

Memory is nothing but electrical reaction caused by neurons.

So the author of this article is identity theorist.

I'll talk about Alzheimer disease.

Chemical called beta amigdaloid is responsible for Alzheimer's disease.

Okay. The mind body interaction is problem for dualism.

Why?

According to dualism, according to Descartes, mind and matter are different things.

Mind and body interact with each other. Mind doesn't take up space.

A challenge was, how can a thing that doesn't take up space move a thing that takes up space?

How can mind have control over matter?

That is challenge to dualism.

How can mind move the body?

What would be the identity theorist answer?

Solution to the mind body problem.

Students asking

According to identity theory, mental state and brain state and whatever same state.

There can be physical explanation about how a brain state brings about a muscle contraction.

Why is my arm moving because of certain chemical reactions occurred in brain, neuro-impulse is created and neural impulse traveled to my muscles.

As a result, my muscles contract.

This is how mind and body interact with each other.

Brain state is a physical state, neuro impulse, this is a physical things, muscle contraction this is physical movement all these process can be explained only in physical terms.

There can be some scientific explanation about how brain control our body.

According to identity theory there is no interaction between mind and brain.

Mind and brain don't interact with each other.

Because there are same things.

How can 정지훈 and 비 interact with each other.

That is impossible.

But it is possible that brain interacts with rest part of my body.

My arms, my legs.

I have three minutes.

[40:00]

Let's discuss this objection again.

He argues this objection to the identity theory.

Brain has a physical location, brain is over here but a mind doesn't have a physical location.

Therefore mind is not identical with brain.

We can think that arms by the order from the brain, we can't see the order of the brain move to the arm, I mean,

We can't see the neural signals.

Mental state is produced by brain....

That's what dualism says.

To be more precise, you should say mind doesn't exist as something over and about brain.

There is no such thing as mind that exist independently of brain.

What is mind? It's brain.

According to the identity theory.

So it's wrong to say brain creates mind, that is dualism

According to identity theory mind is nothing but brain.

Anyway, go away. Sorry guys, interrupt with you.

Um, brain state when he feels mental state means our mind is likely, so if we feel some emotions of body has, like, some pain or depression, our body get some change.

So it can be explained scene like

So do you want to say mind a mental state has a physical location because they are just neural activities?

Yes. Fine off. That's what exactly identity theorist says..

Identity theorist would deny the premise.

According to mental state has a physical location.

Where is it located? Why is it located here?

So the premise is false.

That's exactly what identity theorist would say.

The objection assumes that dualism is true.

So it assumed the very point under dispute.

It begs the question against identity theory.

안상준's point goes what with 박재민. Ah, this point is closer 박재민's view.

Since mental state is identical with brain state, mental state has a physical location.

This is what exactly what identity theorist say.