

Yagisawa on Peacocke and van Inwagen

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【Abstract】 Abstract: In his book *Worlds and Individuals: Possible and Otherwise*, Takashi Yagisawa argues that his own theory is better than Lewis's theory by showing that his own theory can deal with important objections to modal realism more successfully than Lewis's. In particular, Yagisawa claims that by adopting modal tenses, he can respond to many important objections to modal realism in a uniform way. In this paper, I argue that Lewis can also successfully respond to Peacocke's objection in an exactly parallel way to Yagisawa's by distinguishing existence at the actual world from existence at other possible worlds and that Yagisawa's response to van Inwagen's objection does not succeed. I conclude that Yagisawa fails to show that his own theory is better than Lewis's.

【Key Words】 Modal tense, Modal realism, Modality, Possible world, Takashi Yagisawa, David Lewis, Christopher Peacocke, Peter van Inwagen

1. Modal Tenses

Takashi Yagisawa's *Worlds and Individuals: Possible and Otherwise* provides very interesting and insightful, and also very comprehensive, discussions of modality.¹⁾ In this paper, I will raise objections to some of his claims by focusing on one aspect of his theory, namely modal tenses.

Yagisawa adopts the reductive approach towards modality just as Lewis does. So he adopts the following analyses of modal claims:

Necessarily P iff P is true at every possible world.

Possibly P iff P is true at some possible world.

Unlike other modal realists, Yagisawa also claims that modal realists should take all modal tenses seriously. He introduces 4 modal tenses: the actuality tense, the mere-possibility tense, the impossibility tense and what may be called 'the modal space-at-large tense.' For the main purpose of this paper, I will only need the discussion on the actuality tense and the mere-possibility tense here, so I will explain the only first two modal tenses here.

The actuality tense can be expressed by 'actually' in the non-rigid sense. For example, 'Jane is actually a student' where

¹⁾ Yagisawa, T. (2010), *Worlds and Individuals: Possible and Otherwise*, Oxford: Oxford University Press.

‘actually’ is read non-rigidly can be expressed as ‘Jane is_a a student’ and this sentence is true as uttered at w_u and evaluated at w_e if and only if Jane is a student at w_e . The mere-possibility tense can be expressed by ‘possibly’ or ‘could have been.’ So ‘Jane could have been a boxer’ can be expressed as ‘Jane is_p a boxer’ and this sentence is true as uttered at w_u and evaluated at w_e if and only if ‘Jane is_a an artist’ is true as uttered at w_u and evaluated at some possible world other than w_e .

Now Yagisawa argues that modal realists who adopt modal tenses can respond to many important objections to modal realism in a uniform way. These objections have been raised against Lewis’s modal realism, and Yagisawa attempts to demonstrate that his own theory is better than Lewis’s theory by showing that his own theory can deal with these objections more successfully than Lewis’s. Below, I will examine two objections to modal realism: Christopher Peacocke’s *reductio* argument and Peter van Inwagen’s objection with respect to the conception of ‘actuality.’ I will argue that Yagisawa’s theory is not better than Lewis’s.²⁾ Before concluding, I will make another objection to Yagisawa’s theory by raising a worry about modal tenses.

²⁾ For more discussions on Yagisawa, see the following: Ballarin, R. (2011), “The Perils of Primitivism: Takashi Yagisawa’s *Worlds and Individuals, Possible and Otherwise*”, *Analytic Philosophy*, 52 (4), pp. 273-282; Hayaki, R. (2011), “Yagisawa on Trans-indexical Individuals and Fictional Characters”, *Analytic Philosophy*, 52 (4), pp. 283-292; Kim, S. (2011), “Understanding Yagisawa’s Worlds”, *Analytic Philosophy*, 52 (4), pp. 293-301; Yagisawa, T. (2011), “Modal Space Exploration: Replies to Ballarin, Hayaki, and Kim”, *Analytic Philosophy*, 52 (4), pp. 302-311.

2. Peacocke's Objection and Yagisawa's Response

Peacocke's *reductio* argument is as follows.³⁾ Consider the following statements:

- (A) A merely possible human being is not a physical object.
- (B) Anything which is not a physical object is necessarily not a physical object.
- (C) A merely possible human being could exist and be a human being.
- (D) Necessarily, any human being is a physical object.

The following is the formalization of the above, where 'a' is a merely possible human being:

- (A1) $\sim Pa$
- (B1) $\forall x(\sim Px \supset \Box \sim Px)$
- (C1) $\Diamond (Ea \ \& \ Ha)$
- (D1) $\Box \forall x(Hx \supset Px)$

On modal realism, merely possible humans are as real as actual human beings, so modal realists should endorse (A1) - (D1). Peacocke argues that but the problem is that (A1) - (D1) are jointly inconsistent.⁴⁾

³⁾ Peacocke, C. (2002), "Principles for Possibilia", *Noûs*, 36, pp. 486-508.

⁴⁾ Peacocke (2002), p. 505.

To this objection, Yagisawa claims that (A1) and (B1) are ambiguous with respect to modal tense.⁵⁾ According to Yagisawa, once the proper disambiguation is executed, there is no problem for modal realists. He says that depending on how to read ‘is’ which does not lie within the scope of a modal operator, we can have two readings. The first one is this:

- (Ai) $\sim P_a a$
- (Bi) $\forall x(\sim P_a x \supset \Box \sim P_a x)$
- (Ci) $\Diamond (E_a a \ \& \ H_a a)$
- (Di) $\Box \forall x(H_a x \supset P_a x)$

In this case, although the same contradiction is derivable, it does not cause any problem for modal realists, because (Bi) is false. He says “One way not to be physical at a world is not to exist at that world.”⁶⁾ So a is such that it does not exist _{a} and thus is_a not physical, but is_p a physical object at worlds at which it exists _{p} . This makes (Bi) false. The other reading is as follows:

- (Aii) $\sim P_p a$
- (Bii) $\forall x(\sim P_p x \supset \Box \sim P_p x)$
- (Ci) $\Diamond (E_a a \ \& \ H_a a)$
- (Di) $\Box \forall x(H_a x \supset P_a x)$

The same contradiction follows, but again, this is no problem

⁵⁾ Yagisawa (2010), p. 85.

⁶⁾ Yagisawa (2010), p. 86.

for modal realists. This time (Aii) is false, because *a* is a merely possible human being, and thus it exists_{*p*}, and is_{*p*} a physical object as a human being. Yagisawa claims that by adopting modal tenses, modal realists can successfully respond to Peacocke's objection.

3. Van Inwagen's Objection and Yagisawa's Response

Let us move to Peter van Inwagen's objection to modal realism.⁷⁾ Van Inwagen takes the following as a central claim of Lewis's theory:

(a) 'The actual world' means 'the world we inhabit.'

But, van Inwagen claims, we can inhabit many worlds, and thus (a) cannot be true. This is van Inwagen's objection to modal realism.

To this objection, Yagisawa says that adoption of modal tense will enable modal realists to defend (a). He says that, here again, (a) is ambiguous.⁸⁾ It can be read either as this:

⁷⁾ Van Inwagen, P. (1986), "Two Concepts of Possible Worlds", *Midwest Studies in Philosophy XI: Studies in Essentialism*, Minneapolis: University of Minnesota Press, pp. 185-213; reprinted in van Inwagen, P. (2001), *Ontology, Identity, and Modality: Essays in Metaphysics*, Cambridge: Cambridge University Press, pp. 206-242.

⁸⁾ Yagisawa (2010), p. 88.

(ai) ‘The actual world’ means ‘the world we inhabit_a.’

or as the following:

(a_{ii}) ‘The actual world’ means ‘the world we inhabit_p.’

Modal realists clearly would want (a) to be read as (ai) not (a_{ii}). Yagisawa says “Even though we inhabit_p many worlds, we inhabit_a only one world.”⁹⁾ When read as (ai), (a) is true and thus, Yagisawa claims, van Inwagen’s objection fails.

4. Objections to Yagisawa’s Responses

In this section, I will argue that Yagisawa’s claim that his own theory is not better than Lewis’s is not justified by showing the following: with respect to Peacocke’s objection, Lewis can also successfully respond to it in an exactly parallel way to Yagisawa’s by distinguishing existence at the actual world from existence at other possible worlds; with respect to van Inwagen’s objection, Yagisawa’s response is not adequate.

Consider Peacocke’s objection again. To this objection, Yagisawa claims that once the proper disambiguation is executed, this objection does not cause any problem for modal realists. I think that by distinguishing existence at the actual world from

⁹⁾ Ibid.

existence at other possible world, Lewis can also disambiguate (A1) and (B1) in an exactly parallel way. The first reading is as follows:

- (Ai)* It is not the case that a exists at w and is a physical object at w .
- (Bi)* Anything for which it is not the case that it exists at w and is a physical object at w is such that at every world w , if it exists at w , then it is not a physical object.
- (Ci)* a exists at other possible world w_1 and it is a human being at w_1 .
- (Di)* At every world w , if anything is a human being at w , then it is a physical object at w .

Just as Yagisawa denies (Bi) in the above, Lewis will deny (Bi)*. a is not a physical object at w because it does not exist at w . However, a exists at some other world because it is a merely possible object, and at that world, it is a physical object as a human being. The second reading is as follows:

- (Aii)* a exists at other possible world w_1 and it is not a physical object at w_1 .
- (Bii)* Anything which exists at some possible world w and is not a physical object at w is such that at every world w , if it exists at w , then it is not a physical object at w .
- (Cii)* a exists at other possible world w_1 and it is a human being at w_1 .
- (Dii)* At every world w , if anything is a human being at w ,

then it is a physical object at w .

Just as Yagisawa denies (Aii) in the above, Lewis will deny (Aii)*, because a is a physical object as a human being at w_1 at which it exists. This shows that Lewis can also successfully respond to Peacocke's objection in an exactly parallel way to Yagisawa's. Just as Yagisawa responds to it by distinguishing between two modal tenses, the actuality tense and the mere-possibility tense, Lewis can respond to it by distinguishing existence at the actual world from existence at other possible worlds.

Now let us move to van Inwagen's objection. To this objection, Yagisawa says that adoption of modal tense will enable modal realists to defend the claim (a): 'The actual world' means 'the world we inhabit.' In order to defend (a), Lewis will appeal to the indexical analysis of actuality.¹⁰ However, I do not think Lewis can appeal to the distinction between the existence at the actual world and the existence at other possible world in order to defend (a). So at this point, we might be tempted to concede that by adopting modal tenses Yagisawa can respond to important objections in a uniform way unlike Lewis, and that, in this sense, his theory can deal with these objections more successfully than Lewis's. This might lead us to acknowledge that Yagisawa's theory, which combines the reductive analysis of modality with modal tenses, is better than Lewis's theory. However, I wonder

¹⁰ See Lewis, D. (1986), *On the Plurality of Worlds*, Oxford: Basil Blackwell, pp. 92-93 for his discussion on the indexical analysis of actuality.

whether Yagisawa's above response to van Inwagen's objection succeeds. Let me explain.

In responding to van Inwagen, Yagisawa says that although we inhabit_{*p*} many worlds, we inhabit_{*a*} only one world. But is it true that we inhabit_{*p*} many worlds? Like van Inwagen, Yagisawa rejects Lewis's thesis that all individuals are world-bound and exists at only one world. According to Yagisawa, just as we extend in the spatial dimension and the temporal dimension, we extend in the modal dimension. Just as we have our temporal parts at past and at future as well as at present, and just as we have our spatial parts at other spatial regions (where my hands are) as well as here (where my torso is), we have our modal parts at other worlds as well as at the actual world. Now, a thing is where its part is.¹¹⁾ So we are at many worlds. Therefore, Yagisawa concludes, we inhabit_{*p*} many worlds.

However, when Yagisawa introduces and explains modal tense, he says 'Jane could have been a boxer' can be expressed as 'Jane is_{*p*} a boxer,' and 'Jane is_{*p*} a boxer' is true as it is uttered at the actual world and it is evaluated at the actual world if and only if Jane is a boxer at a non-actual possible world. If we apply this to 'we inhabit_{*p*} many worlds,' this sentence means the same as 'we could have inhabited many worlds' and it is true if and only if we inhabit many worlds at a non-actual possible world. The problem is that we cannot say that we inhabit many worlds at one world. For, as Yagisawa himself says, "it is nonsensical to say that a world exists (exists_{*a*} or exists_{*p*}) at a

¹¹⁾ Yagisawa (2010), p. 33.

world (actual or merely possible).”¹²⁾ If so, then it is also nonsensical to say that many worlds exist at a world. Hence he rejects the claim that there are_p many possible worlds.¹³⁾

This has the consequence that it is false that we inhabit many worlds at one world, because ‘we inhabit many worlds at one world’ implies ‘there are many worlds (at which we inhabit) at one world.’ Thus, ‘We inhabit_p many worlds’ is false. What is true is that we inhabit_p w₁, we inhabit_p w₂, we inhabit_p w₃, and so on. We inhabit_p only one world. This shows that Yagisawa’s response to van Inwagen by appealing to the distinction between ‘inhabit_a’ and ‘inhabit_p’ fails.

Yagisawa might reply that we can say we inhabit_m many worlds. This modal tense is what I have called in the first section ‘the modal space-at-large tense.’ This modal tense is introduced for a special purpose such as for saying that a possible world exists_m in modal space at large, that a particular world is_m thus-and-so in modal space at large, and so on.¹⁴⁾ Using this modal tense, we can say that there are_m many worlds we inhabit_m. Even though we inhabit_m many worlds, we inhabit_a only one world, and ‘the actual world’ means ‘the world we inhabit_a.’

The problem with this response is that now Lewis can say an exactly similar thing to defend (a). When we only consider things which exist at this world, this spatiotemporally connected system (pointing around here with our finger), we can say ‘the actual

¹²⁾ Yagisawa (2010), p. 90.

¹³⁾ Ibid.

¹⁴⁾ Yagisawa (2010), p. 91. Its purpose is to say that there is_m an object which neither is_a nor is_p. See Yagisawa (2010), p. 87.

world' means 'the world we inhabit.' But when we consider also things which exist at other possible worlds at large as well as things which exist at this world, we exist at many worlds.¹⁵⁾ Just as Yagisawa claims that (a) must be taken as 'we inhabit_a only one world,' and when taken in this way, (a) is true, Lewis can say that modal realists want (a) to be understood as saying 'the actual world' means 'the world we inhabit when we only consider things which exist at this world, this spatiotemporally connected system (pointing around here with our finger), and when taken in this way, (a) is true.

5. Another Objection to Yagisawa's Modal Tenses

So far, I have argued that Lewis can also successfully respond to Peacocke's objection in an exactly parallel way to Yagisawa's by distinguishing existence at the actual world from existence at other possible worlds and that Yagisawa's response to van Inwagen's objection does not succeed. So the fact that modal tenses enable modal realists to deal with these objections in a uniform way cannot be an advantage of Yagisawa's theory over Lewis's. Before concluding, I will raise another worry with respect to Yagisawa's modal tenses.

I think introducing modal tense makes Yagisawa's theory confusing. Yagisawa claims that modal tenses are ineliminable. He

¹⁵⁾ When ignoring the counterpart relation.

claims that the actuality tense in terms of which other modal tenses can be defined is not definable in modal-tense-neutral terms.¹⁶⁾ He also says as the follows:¹⁷⁾

It is a mistake to think that ‘There are_p talking_p donkeys_p’ is a gimmicky way to say the same thing as ‘There are talking donkeys at a merely possible world’. Strictly speaking, modal realists should regard the latter sentence as not fully articulate and refrain from using it. They should instead stick to the former sentence.

I agree that the latter sentence is not fully articulate, because proper modal tenses are missing. According to Yagisawa, ‘There are_p talking_p donkeys_p’ is the same as ‘There could have been talking donkeys.’ And according to his own analysis of modality in terms of possible worlds, this sentence is true as uttered at w_u and evaluated at w_e if and only if ‘There are_a talking_a donkeys_a’ is true as uttered at w_u and evaluated at some possible world other than w_e . But, doesn’t this imply that ‘There are_p talking_p donkeys_p’ is true if and only if ‘There are_a talking_a donkeys_a’ is true at a merely possible world? Then, provided that proper modal tenses are given, isn’t it fine to use the latter sentence? Why does Yagisawa advise us to stick to the former sentence and refrain from using the latter sentence?

Here, it seems to me, Yagisawa forgets about his own reductive approach toward modality, according to which modal notions are to be understood in terms of possible worlds. At this point, I have

¹⁶⁾ Yagisawa (2010), p. 93.

¹⁷⁾ Ibid.

difficulty understanding the relation between the possible world framework and modal tenses in Yagisawa's theory. I am not claiming here that combining the possible world framework with modal tenses is hopeless or incoherent. I only claim that as it stands now, Yagisawa's theory is difficult to comprehend. I think introducing modal tenses makes his theory confusing.

6. Conclusion

In this paper, I have examined Yagisawa's responses to Peacocke's objection to modal realism and van Inwagen's objection to modal realism. Against Yagisawa claim that his own theory is better than Lewis's modal realism because his own theory can respond to these objections in a uniform way by adopting modal tenses, I have argued that this is not the case. In doing so, I have showed that Lewis can also successfully respond to Peacocke's objection in an exactly parallel way to Yagisawa's by distinguishing existence at the actual world from existence at other possible worlds and that Yagisawa's response to van Inwagen's objection does not succeed. I also raise another objection to the effect that introducing modal tenses makes Yagisawa's theory confusing. Based on these, I conclude that Yagisawa fails to show that his own theory is better than Lewis's.¹⁸⁾

¹⁸⁾ I thank anonymous referees for their helpful comments.

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타카시 야기사와는 그의 저서 *Worlds and Individuals: Possible and Otherwise*에서 양상실재론에 대한 중요한 반론들에 대해 자신의 이론이 루이스의 이론보다 더 성공적으로 재반박할 수 있다는 것을 보임으로써 자신의 이론이 더 낫다고 주장한다. 특히 그는 자신이 양상 시제(modal tenses)를 도입함으로써 양상실재론에 대한 중요한 반론들에 대해 균일한 방식으로 재반박할 수 있다고 주장한다. 이 논문에는 나는 루이스 역시 현실 세계에서의 존재와 가능 세계에서의 존재를 구별함으로써 야기사와와 동일한 방식으로 피콕의 반론에 대해 재반박할 수 있다는 것을 보이고, 반 인와겐에 대한 야기사와의 재반박은 성공적이지 않다는 것을 보인다. 결론적으로 나는 야기사와는 자신의 이론이 루이스의 이론보다 더 낫다는 것을 보이는데 실패했다고 주장한다.

주요어: 양상 시제, 양상실재론, 양상성, 가능세계, 타카시 야기사와, 데이빗 루이스, 크리스토퍼 피콕, 피터 반 인와겐