UNIT 2: SPACE AND TIME: KANT

Unit Structure

2.1 Learning Objectives

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2.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- explain the forms of human sensibility
- describe two *apriori* forms of sensibility, namely space and time.
- discuss the metaphysical and transcendental exposition of space and time.

2.2 INTRODUCTION

Kant states that, there are two stems of human knowledge. They are sensibility and understanding. Through sensibility, objects are given to us. Through understanding, they are thought. Sensibility is the faculty of intuitions and understanding is the faculty of concepts. Without sensibility no object would be given to us and without understanding no object would be thought. Kant regards thoughts without content are empty, intuitions without concepts are blind.

Kant holds that through intuition, knowledge is in immediate relation to objects. But intuition takes place only when we have the objects. In order for the objects to appear, thought must relate to the intuition, and to the sensibility. Sensibility is the capacity (receptivity) for receiving the

representations through the mode in which we are affected by the objects. The capacity for receiving representations (receptivity) through the mode in which we are affected by objects, is called sensibility.

Kant says that the sensations are posited and ordered in a certain form. This form is not derived from the sensible intuition and must therefore be found in the mind *a priori*. This pure form of sensible intuition is space and time. This pure form of sensibility is also known as 'pure intuition'. Space and time are pure intuitions, because they are like intuited *objects* in that they are individuals with which our intuition places us in an immediate cognitive relation. Space and time are like objects in that any intuition of an object is also an intuition of the space in which the object is located and of the time in which the experience itself takes place.

2.3 FORMS OF SENSIBILITY

Kant in the transcendental doctrine of elements discusses two pure forms of sensible intuitions, in which all the manifold of intuition is intuited in certain relations. These two pure forms of sensible intuitions are space and time. They must be found in the mind *a priori*. Kant discusses space and time under the two heads, metaphysical and the transcendental. A metaphysical exposition of space aims to expose the origin and content of our representation of space, while a transcendental exposition aims to explain whether and how our representation can serve as a principle or ground for cognition. The arguments offered in the Metaphysical Exposition are meant to show that our representation of space is a pure intuition, its source is non-empirical, and its content is singular and immediately given. It will follow from this that the object of our representation of space is an individual, whose features are knowable *a priori*. Kant will proceed to show in the Transcendental Exposition that the representation so described is a subjective element of cognition that provides the ground for a body of synthetic *a priori* cognition"namely, geometry, the science of space.

Kant introduces the Metaphysical Exposition of Space by describing features of our sensible experience that he takes to be evident upon simple inspection:

we represent things "outside us" as spatially determinate, and we represent things internal to our conscious experience as temporally determinate. For example, an item in our visual field that we might reach out and touch can be represented as having a determinate shape, size, and position in space; a mental state can be represented as having a determinate location and duration in time. However, it should be noted that relation between outer and inner objects is not symmetrical with respect to space and time. The reason is that outer objects can be temporally located, but inner objects cannot be spatially located. This asymmetry, and the temporality of outer objects, plays an important role in Kant's Refutation of Idealism.

2.4 METAPHYSICAL EXPOSITION OF THE CONCEPT OF SPACE AND TIME

Kant in the metaphysical exposition gives four arguments in favour of the concept of space and five arguments in favour of the concept of time, in order to prove them *a priori.*

First argument of the concept of space: Space is not an empirical concept, which has been derived from outer experiences.By outer experiences, Kant refers to a property of our mind, through which we represent to ourselves objects as outside us. According to Kant, a representation is a kind of cognitive process through which objects are regarded as outside us. Kant states that sensations arise, when objects, which are outside us, act on our senses. In order to regard different representations as in different places, the representation of space must be presupposed. It appears that the representation of space cannot, therefore, be empirically obtained from the relations of outer appearance.

Second argument: Space is a necessary *a priori* representation, which underlies all outer intuitions. We can never represent to ourselves the absence of space, though we can quite well think it as empty of objects. It is an argument, which concerns about the *a priori* character of the concept of space. Kant argues that it is not possible to have the representation of an object without space, though it is possible to conceive of the concept of

space without the representation of any object. Third argument: Space is not a discursive or, as we say, general concept of relations of things in general, but a pure intuition. Kant states that there is only one space. If we speak of different spaces, then, we mean that they are the parts of that one space.

Fourth argument: Space is represented as an infinite *given* magnitude. This argument is based on the third argument, where, Kant argues that we can conceive of only one space and the different spatial representations are parts of that unique space. This says that the concept of one space contains within itself an infinite number of representations within itself. Therefore, it follows that the concept of one space, which contains within itself infinite number of representations, cannot be derived from sensible intuition, and must be regarded as *a priori*.

These arguments are put forward in favour of the metaphysical exposition of the concept of space. Kant also puts forward five arguments in favour of the metaphysical exposition of the concept of time. They are– First argument: Time is not an empirical concept that has been derived from any experience. The concept of time is presupposed as the coexistence and the succession of an object. Hence, time is regarded as an *a priori* concept, because it presupposes for the representation of coexistence and the succession of an object.

Second argument: Time is a necessary representation that underlies all intuitions. We cannot, in respect of appearances in general, remove time itself, though we can quite well think time as void of appearances. Time is, therefore, given *a priori*. Kant says that representation and the succession of object is possible only in relation to time though time can be conceived without any representation.

Third argument: Time has only one dimension, that is, one after another. Different temporal representations are conceived in the one dimension of time. Time is *a priori* and hence it possesses the elements of certainty and necessity. Kant argues that these principles cannot be derived from experience, for experience would give neither strict universality nor apodeictic certainty.

Fourth argument: Time is not a discursive, or what is called a general concept, but a pure form of sensible intuition. Different times are but parts of one and the same time; and the representation which can be given only through a single object is intuition. Time, like space is one. Different times are the parts of that one time. The concept of time is a pure form of sensible intuition and hence it is regarded as *a priori*.

Fifth argument: The original representation, *time*, must therefore be given as unlimited. This argument is based on the previous argument where Kant remarks on the concept of one time and the different representations of the coexistence and the succession of objects are conceived as parts of that one time. He regards the concept of time as unlimited, where infinite representations of coexistence and succession of objects take place. The concept of time as unlimited cannot be derived from sensible intuition and must be regarded as *a priori*.

2.5 TRANSCENDENTAL EXPOSITION OF THE CONCEPT OF SPACE AND TIME

Kant also offers the transcendental exposition of the concept of space and time. Through the transcendental exposition, Kant argues that, even though, space and time cannot be derived from sensible intuition, yet every manifold of sensible intuition has to be received in the form of space and time, so that we can have the synthetic *a priori* knowledge. Kant explains transcendental exposition of the concept of space and time, by giving examples from the context of geometry and physics respectively. Kant regards that our knowledge in physics or geometry is possible only through recognition of the concept of space and time as synthetic and *a priori*. Kant argues that, Geometry is a science which determines the properties of space synthetically and yet *a priori*. He says that the proposition 'the sum of the three angles of a triangle is equal to two right angles' is a synthetic proposition because, in order to find out the triangle and the sum of its three angles as equal to the two right angles, we take the help of the sensible intuition. Therefore, the proposition is regarded as synthetic. Again, this

proposition also contains the elements of 'necessity' and 'certainty'. Hence, this proposition is also regarded as *a priori*.

T. E. Wilkerson is of the opinion that Kant makes a very intimate connection between space, time and mathematics. One of Kant's aims is to show against Hume that we can have substantive knowledge of the world *a priori*, in the form of the general truths of the mathematics and physics. The Aesthetic is devoted among other things to justifying the necessity of mathematics, the necessary application to experience of mathematical truths. It seems that the necessity of mathematics is guaranteed by the central role of space and time in our experience.

Kant in the transcendental exposition of the concept of time states that the third argument put forward in favour of the metaphysical exposition of the concept of time is actually a transcendental exposition. According to the third argument of the metaphysical exposition of the concept of time, time has only one dimension, i.e., one after the other. Kant holds that the concept of time possesses the elements of certainty and necessity and hence, it is regarded as *a priori*. At the same time, Kant argues that the concept of *alteration* and with it the concept of *motion* is possible only through the representation of time.

Space and time are the two forms of human sensibility, through which we can obtain *a priori* synthetic knowledge. Pure mathematics is an example of this *a priori* synthetic knowledge. Space and time are pure forms of all sensible intuition which gives an essential basic structure to our experience. Kant regards that space and time as empirically real and transcendentally ideal. Space and time are empirically real with respect to things, which can be given in the manifold of sensible intuitions. He regards the empirical reality of the concept of space as all things, as outer appearances, are side by side in space. The rule is valid universally and without limitation. Similarly, time is also empirically real, in the sense in which its objective validity in respect of all objects which allow of ever being given to our senses. Empirically, space, time, and spatio-temporal objects are real. They are not illusions, which can be distinguished from 'mere appearances' (like dreams, hallucinations, mirages and the like). Their empirical reality, however, does not consist in their being things existing in themselves,

independently of the conditions under which we cognise them. It consists rather in the way they conform to an order of nature that is transcendentally necessary if experience is to be possible at all.

Space and time are also transcendentally ideal with respect to *things*, which cannot be given in the manifold of sensible intuitions. Space and time are neither wholly mind independent, self-subsistent entity, nor determinations. They are not objective property of things in themselves, rather they are merely the subjective conditions of sensibility, under which alone outer intuition is possible for us.



CHECK YOUR PROGRESS

Q 1: What are the two stems of human knowledge?

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Q 2: What is sensibility?

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Q 3: What is understanding?

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Q 4: Who says “Thoughts without content are empty, intuitions without concepts are blind.”

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Q 5: What is pure intuition?

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Q 6: What are two forms of sensible intuition?

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Q 7: What are the two heads, according to Kant, under which space and time are discussed?

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Q 8: What is a synthetic proposition?

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Q 9: Why is time considered as a priori?

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Q 10: Why is space and time considered as empirically real?

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2.6 LET US SUM UP

- Sensibility is the capacity (receptivity) for receiving the representations through the mode in which we are affected by the objects.
- By means of sensibility, therefore, objects are given to us, and it alone furnishes us with intuitions.
- Kant says that the sensations are posited and ordered in a certain form. This form is not derived from the sensible intuition and must therefore be found in the mind *a priori*. This pure form of sensible intuition is space and time. This pure form of sensibility is also known as 'pure intuition'.
- Kant discusses space and time under the two heads, metaphysical and the transcendental. A metaphysical exposition of space aims to expose the origin and content of our representation of space, while a transcendental exposition aims to explain whether and how our representation can serve as a principle or ground for cognition.
- Kant regards that space and time as empirically real and transcendentally ideal. Space and time are empirically real with respect to things, which can be given in the manifold of sensible intuitions.
- Empirically, space, time and spatio-temporal objects are real. They are not illusions, which can be distinguished from 'mere appearances' (like dreams, hallucinations, mirages and the like). Their empirical reality, however, does not consist in their being things existing in themselves, independently of the conditions under which we cognise them. It consists rather in the way they conform to an order of nature that is transcendentally necessary if experience is to be possible at all.

- Space and time are also transcendentally ideal with respect to *things*, which cannot be given in the manifold of sensible intuitions. Space and time are neither wholly mind independent, self-subsistent entity, nor determinations. They are not objective property of things in themselves, rather they are merely the subjective conditions of sensibility, under which alone outer intuition is possible for us.



2.7 FURTHER READINGS

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2) Harris,Errol E. (1965) *The Foundations of Metaphysics in Science*, London: George Allen and Unwin.

3) Kant, Immanuel *Critique of Pure Reason*, translated by N.K. Smith, 1973: London: Macmillan.

4) Scruton,Roger (1982) *Kant*, London: Oxford University Press, 1982.

5) Shabel,Lisa (2010) "The Transcendental Aesthetic," in *The Companion to Kant's Critique of Pure Reason*, edited by Paul Guyer,(New York, Cambridge University Press, 2010).

6) Wilkerson,T.E. (1976) *Kant's Critique of Pure Reason: A Commentary for Students,*(London: Clarendon Press, 1976).

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2.8 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Sensibility and understanding

Ans to Q No 2: Sensibility is the faculty of intuition.

Ans to Q No 3: Understanding is the faculty of concepts

Ans to Q No 4: Kant

Ans to Q No 5: According to Kant, sensation are posited and ordered in a certain form. This form is not derived from the sensible intuition and must be found in the mind 'a priori'. This form of sensibility is also known as 'pure intuition'

Ans to Q No 6: Space and time

Ans to Q No 7: Metaphysical and transcendental exposition of space and time

Ans to Q No 8: Kant says that the proposition 'the sum of the three angles of a triangle is equal to two right angles' is a synthetic proposition because, in order to find out the triangle and the sum of its three angles as equal to the two right angles, we take the help of the sensible intuition. Therefore, the proposition is regarded as synthetic.

Ans to Q No 9: Kant holds that the concept of time possesses the elements of certainty and necessity and hence it is regarded as apriori.

Ans to Q No 10: Space and time are empirically real with respect to things, which can be given in the manifold of sensible intuitions.



2.9 MODEL QUESTIONS

A) Objective questions

Q 1: What is sensibility?

Q 2: What is understanding?

Q 3: What is metaphysical exposition of space and time?

Q 4: What is transcendental exposition of space and time?

Q 5: What are the two forms of sensible intuition?

B) Short questions (Answer in about 100=150 words)

Q 1. What is metaphysical exposition of space and time? Explain briefly

Q 2: What is transcendental exposition of space and time? Explain briefly

Q 3: Write a note on metaphysical exposition of the concept of time.

Q 4: Write a note on metaphysical exposition of space.

Q 5: Write a note on forms of sensibility.

C) Long questions (Answer in about 300-500 words)

Q1: What are the two *a priori* forms of sensibility? Discuss.

Q2. Explain the metaphysical exposition of the concept of space?

Q3. Explain the metaphysical exposition of the concept of time.

Q4. Discuss the transcendental exposition of the concept of space and time.

Q5. What is meant by space and time as 'empirically real and transcendentally ideal? Discuss.

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