

Absolut vs. Subjektif- Ideal-Universal?




Gagasan Filosofis Newton dan Kant Perihal Ruang dan Waktu

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Introduksi Umum

- ❖ Modern: waktu dipisahkan dari ruang.
- ❖ Persoalan tak sekedar “teknis” tapi menyangkut gagasan pemahaman apa itu waktu dan ruang dari para filsuf besar.
- ❖ Kini: Newton dan Kant —> bagaimana mereka memberikan world-view yang membentuk kultur kontemporer.

Saint Augustine

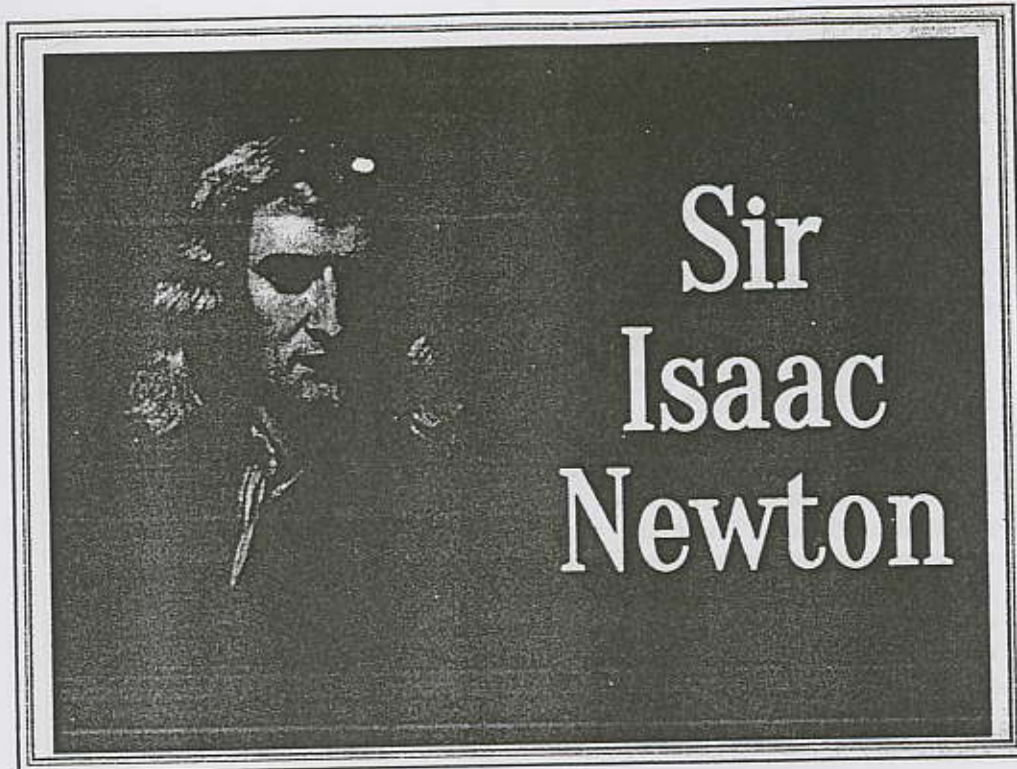


What then is time? If no one asks me, I know what it is. If I wish to explain it to him who asks, I do not know.

AZ QUOTES

mathsU notebook

<p>1. Point</p> <p>2. Line</p> <p>3. End of line</p> <p>4. Straight line</p> <p>5. Surface</p> <p>6. edges are lines</p> <p>7. Plane Surface</p> <p>8. plane angle</p>	<p>9. rectilinear angle</p> <p>10. perpendicular to AB</p> <p>Right angle</p> <p>11. obtuse angle</p> <p>12. acute angle</p> <p>13. Boundary</p> <p>14. Figure</p>	<p>15. Circle</p> <p>16. Center</p> <p>17. Diameter</p> <p>18. Semicircle</p> <p>19. Rectilinear figures</p> <p>trilateral</p> <p>quadrilateral</p> <p>multilateral</p>	<p>20. Triangles</p> <p>equilateral isosceles scalene</p> <p>21. Right-angled triangle</p> <p>21. Obtuse-angled triangle</p> <p>21. Acute-angled triangle</p> <p>22. Quadrilaterals</p> <p>Square Oblong Rhombus</p> <p>Rhomboid Trapezia</p> <p>23. Parallel straight lines</p>
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Sir Isaac Newton

❖ Isaac Newton (1642-1726/27) — > lekat dengan sains.

❖ Tiga alasan mengapa ia juga filsuf:

1. Sains pada zaman itu = philosophianaturalis.
2. Cara baru berfilsafat: experimental.
3. Memunculkan persoalan baru bagi filsafat.

Newtonian science created a **new problem for philosophy**, a problem that remained at the forefront of philosophy for the next two hundred years and is still central today. Questions about the nature and scope of the knowledge we can achieve of the empirical world have been part of philosophy since Plato and Aristotle. In part because of the challenge of Pyrrhonic skepticism, they became especially important in the rise of modern philosophy during the seventeenth and eighteenth centuries, that is, among philosophers from Bacon and Descartes through Hume, if not Kant. Philosophical considerations led virtually all of these philosophers to the same largely negative conclusion: given the limited character of the information we receive through our senses, empirical inquiry in itself cannot establish much in the way of general theoretical knowledge. For Descartes and Leibniz this meant that empirical inquiry has to be amply supplemented by philosophical reasoning, an alternative dismissed by Locke and Hume. On the face of it, the science coming out of Newton's *Principia* defied such skeptical conclusions. The initial problem this science posed for philosophers was to make clear just what sort of knowledge it was achieving. As the spectacular success of this science became increasingly evident during the course of the eighteenth century, the problem took on the added dimension of explaining how such knowledge is possible. Both aspects of this problem have been with us ever since



❖ Immanuel Kant (1724-1804) —> filsuf besar.

Two things fill the mind with ever new and increasing admiration and awe, the more often and steadily we reflect upon them: **the starry heavens above me and the moral law within me.** I do not seek or conjecture either of them as if they were veiled obscurities or extravagances beyond the horizon of my vision; I see them before me and connect them immediately with the consciousness of my existence. The first starts at the place that I occupy in the external world of the senses, and extends the connection in which I stand into the limitless magnitude of worlds upon worlds, systems upon systems, as well as into the boundless times of their periodic motion, their beginning and continuation. The second begins with my invisible self, my personality, and displays to me a world that has true infinity, but which can only be detected through the understanding, and with which . . . I know myself to be in not, as in the first case, merely contingent, but universal and necessary connection. The first perspective of a countless multitude of worlds as it were annihilates my importance as an animal creature, which must give the matter out of which it has grown back to the planet (a mere speck in the cosmos) after it has been (one knows not how) furnished with life-force for a short time. The second, on the contrary, infinitely elevates my worth, as an *intelligence*, through my personality, in which the moral law reveals to me a life independent of animality and even of the entire world of the senses, at least so far as may be judged from the purposive determination of my existence through this law, which is not limited to the conditions and boundaries of this life but reaches into the infinite. (Critique of Practical Reason)

- ❖ Pembahasan kita: filsafat dan cultural studies.
- ❖ Newton+Kant —> membentuk gagasan tentang apa itu ruang dan waktu dan bagaimana orang bersikap atas keduanya.

Gagasan Newton tentang Ruang dan Waktu

- ❖ Kontroversi atas ruang-waktu-gerak absolut:
 - ❖ Menyebut ketiganya absolut —> melangkah keluar dari sains empiris.
 - ❖ Yang bisa diamati hanyalah: the relative displacement of observable things.
 - ❖ Apakah lalu relative (Einstein)?

↖ For Newton: "Although time, space, place, and motion are very familiar to everyone, it must be noted that these quantities are popularly conceived solely with reference to the objects of sense perception. And this is the source of certain preconceptions; to eliminate them it is useful to distinguish these quantities into absolute and relative, true and apparent, mathematical and common."

↖ Preconception:

↖ Cartesian "res extensa"

↖ For Descartes there are two kinds of motions: motion "in the vulgar sense" is "the action by which a body passes from one place to another," motion "in the philosophical sense" is the body's "transference from the vicinity of those bodies contiguous to it to the vicinity of others."

Absolute Time and Space

◦Absolute time:

◦Time that without reference to anything external flows uniformly.

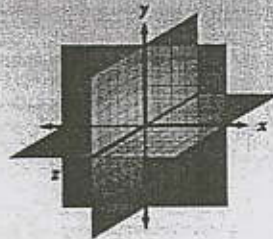
◦All things are placed in time with reference to order of succession; and in space in order of position.

◦Time flows equally and that equal intervals of time are objectively defined.

◦Absolute space:

◦Space: homogenous and immovable.

Newton's absolute time

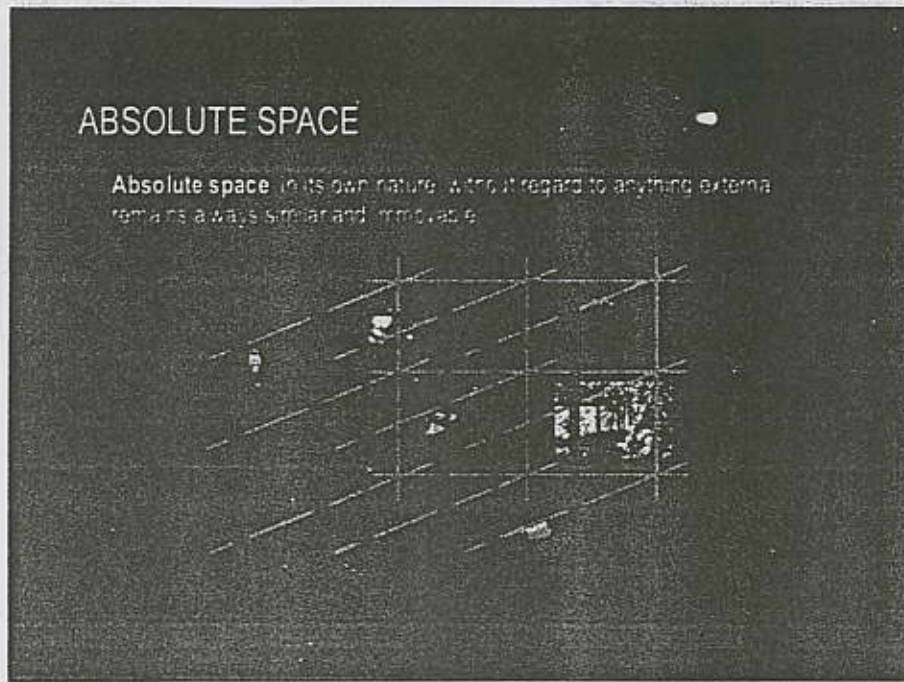


Absolute, true, and mathematical time, of itself, and from its own nature, flows equably without relation to anything external, and by another name is called **duration**: relative, apparent, and common time, is some sensible and external (whether accurate or unequal) measure of duration by the means of motion, which is commonly used instead of true time; such as an hour, a day, a month, a year.

Absolute simultaneity is possible!

ABSOLUTE SPACE

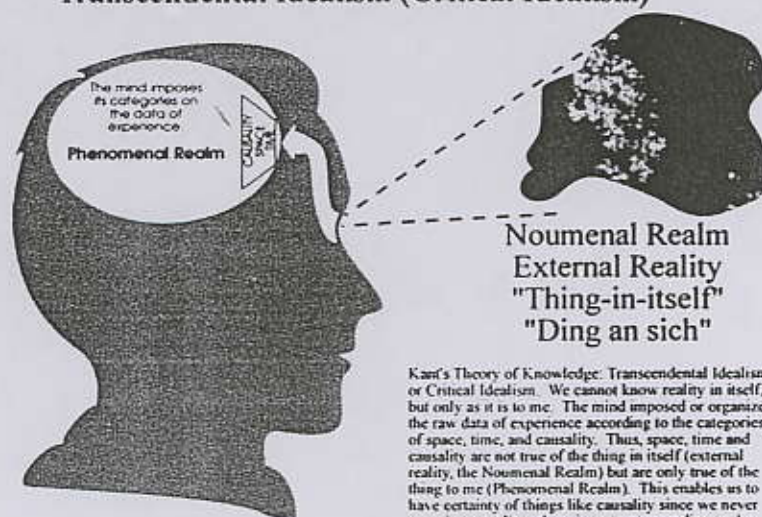
Absolute space in its own nature, with respect to anything external, remains always similar and immovable.



Notes

- ❖ Shift from metaphysics to physics.
- ❖ Empirical definitions of motion, space, and time come from the laws of empirical science.
- ❖ **Newton mencopot ruang-waktu dari metafisika dan menjadikan keduanya absolut: terkuantifikasi secara mutlak dan dengan cara itulah hidup bisa diorganisasi.**

Kant's Theory of Knowledge Transcendental Idealism (Critical Idealism)



Kant's Theory of Knowledge: Transcendental Idealism or Critical Idealism. We cannot know reality in itself, but only as it is to me. The mind imposed or organizes the raw data of experience according to the categories of space, time, and causality. Thus, space, time and causality are not true of the thing in itself (external reality, the Noumenal Realm) but are only true of the thing to me (Phenomenal Realm). This enables us to have certainty of things like causality since we never experience reality otherwise except according to the categories.

Some Quotes From Kant

Now what are space and time? Are they actual entities [wirkliche Wesen]? Are they only determinations or also relations of things, but still such as would belong to them even if they were not intuited? Or are they such that they belong only to the form of intuition, and therefore to the subjective constitution of our mind, without which these predicates could not be ascribed to any things at all? (A23/B37-8).

- ◊ Space is not an empirical concept which has been derived from outer experiences. For in order that certain sensations be referred to something outside me (that is, to something in another region of space from that in which I find myself), and similarly in order that I may be able to represent them as outside and alongside one another, and accordingly as not only different but as in different places, the representation of space must already underlie them [dazu muß die Vorstellung des Raumes schon zum Grunde liegen]. Therefore, **the representation of space cannot be obtained through experience from the relations of outer appearance; this outer experience is itself possible at all only through that representation (A23/B38).**

- ◊ ...the famous *doctrine of time and space*, in which he intellectualized these forms of sensibility, arose solely from this very same deception of transcendental reflection. If I would represent outer relations of things through mere understanding, this can be done only through a concept of their reciprocal effect, and if I should connect a state of one and the same thing with another state, then this can only be done in the order of grounds and consequences. Thus Leibniz thought of space as a certain [gewisse] order in the community of substances, and of time as the dynamic sequence of their states. The uniqueness and independence from things, however, which both of these seem to have in themselves, he ascribed to the *confusion* of these concepts, which made that which is a mere form of dynamical relations be taken for a single intuition subsisting by itself and preceding the things themselves. **Thus space and time became the intelligible form of the connection of things (substances and their states) in themselves (A275-6/B331-2).**

Gagasan Kant tentang Ruang dan Waktu

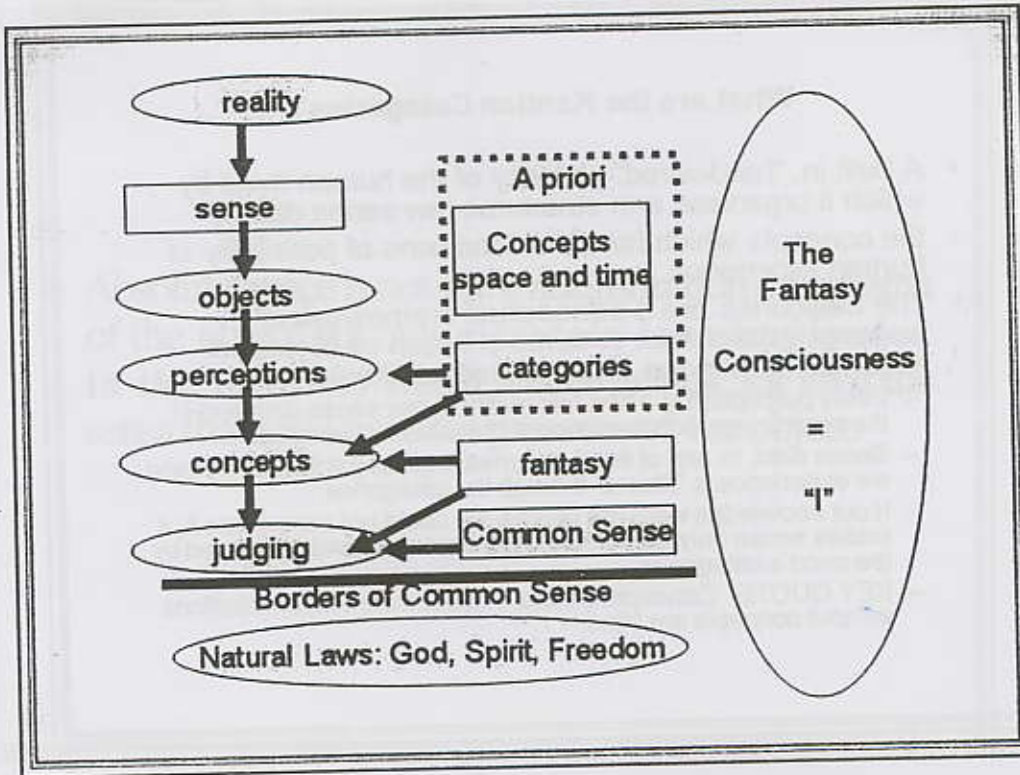
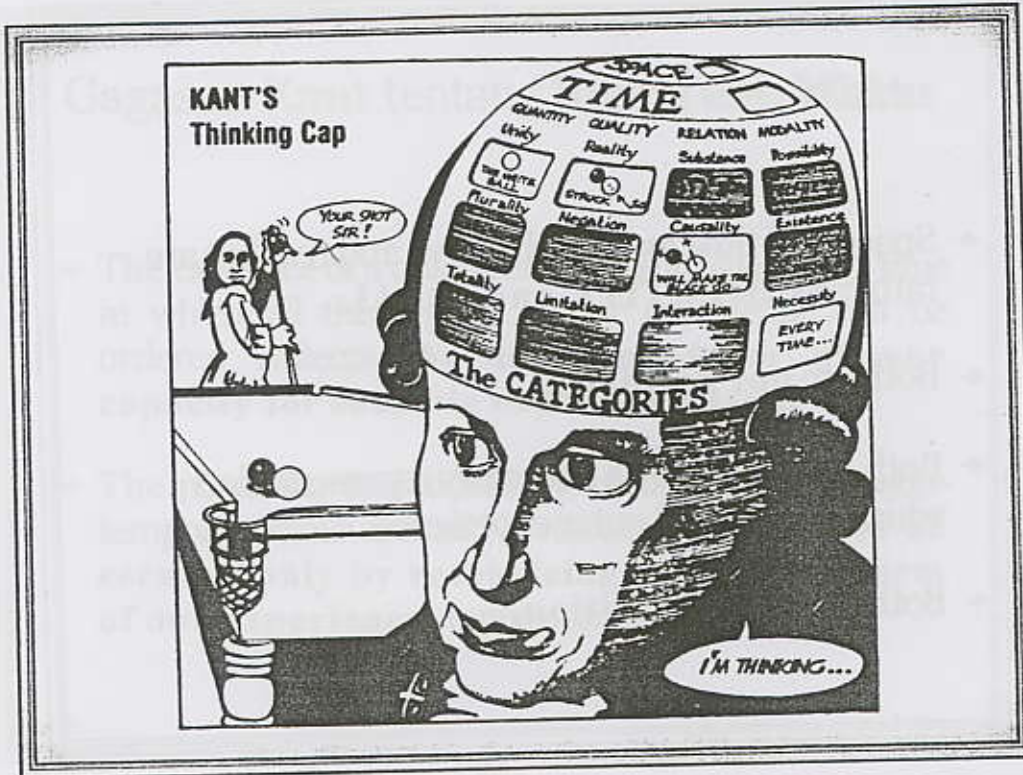
- ❖ The existence of a unique and absolute space and time in which all the objects of our experience can be ordered reflects **the inherent form of our capacity for sensible experience itself.**
- ❖ The possibility and indeed the certainty of the spatio-temporal framework of Newtonian physics **could be secured only by recognizing it to be the form of our experience.** (appearances/phenomena)

- ❖ Absolute space is not some adumbration or schema of the object but only a **certain law implanted in the mind** by which it coordinates for itself the **sensa** that arise from the presence of the object.

- ❖ Space and time are not objective and real but are rather **SUBJECTIVE and IDEAL**.
- ❖ Both are **not empirical**.
- ❖ Both are *a priori*, a necessary representation which underlie all outer experience.
- ❖ Both are **pure intuition**.

What are the Kantian Categories?

- A built in, "hard-wired" capacity of the human mind by which it organises and structures raw sense data
- the concepts which form the conditions of possibility of human experience.
- The categories are a **conceptual framework or conceptual scheme** in terms of which all objects of empirical knowledge are analysed or filtered.
 - Every perception is a two-fold reality: i) raw sense data and ii) the organizing and structuring of that data by the mind.
 - Sense data, in and of itself, is a meaningless jumble: everything we experience is 'filtered' through the categories.
 - If our knowledge were not filtered, we could not experience it; it makes sense only after it has been organised and structured by the mind's categories.
 - **KEY QUOTE:** 'Concepts without intuitions are empty; intuitions without concepts are blind.'



The Three Postulates

- FREEDOM – GOD - IMMORTALITY
- There are incorporated into coherent and meaningful ethical structure.
- A postulate is “a theoretical propositions which is not as such demonstrable but which is an inseparable corollary of an apriori unconditionally valid practical law.”
- The postulate becomes part of the Kant’s ethical structure but he makes it clear that the postulates play no theoretical or explanatory role.

Simpulan dan Observasi

- ❖ Ruang dan waktu —> gagasan universal.
- ❖ Gagasan ruang dan waktu absolut Newton ditolak oleh Kant karena bila keduanya absolut, keduanya tak bisa dialami.
- ❖ Bagi Kant keduanya serentak subjective, ideal, dan universal.

❖ **Bukan VS melainkan AND** —> yang absolut dan subjective membangun kultur kita

❖ Precision and punctuality —> eksternal DAN internal.

❖ Ruang-Waktu: teknis, geometris, ditaklukkan demi the myth of progress.