Intuition, Space, Time

1. What is an Intuition?

Kant's overview in *CPR* (A320/B376–7): "The genus is **representation** [*Vorstellung*] in general (*repraesentatio*). Under it stands the representation with consciousness (*perceptio*). A **perception** that refers to the subject as a modification of its state is a **sensation** [*Empfindung*] (*sensatio*), an objective perception is a **cognition** [*Erkenntnis*] (*cognitio*). This is either an **intuition** [*Anschauung*] or a **concept** [*Begriff*] (*intuitus vel conceptus*). The former is immediately [*unmittelbar*] related to the object and is singular; the latter is mediate, by means of a mark, which can be common to several things. A concept is either an **empirical** or a **pure concept**, and the pure concept, insofar as it has its origin solely in the understanding [*Verstand*] (not in a pure image of sensibility), is called *notio*. A concept made up of notions, which goes beyond the possibility of experience, is an **idea** or a concept of reason."

 The core idea is that an intuition is *particular* (rather than universal) and *concrete* (rather than abstract) in that it has an object; and it is *pure* insofar as it represents a universal concept in a particular instance without empirical determinations.

2. The argument in §§6–11

(1) §6. Fact: Mathematical cognition (a) is synthetic and *a priori*, (b) 'constructs' concepts in intuition (c) applies to objects in space and time, and so (d) deals with space and time.

(2) §7. The fact and hence the possibility of mathematical cognition presupposes the possibility of pure intuition [*reine Anschauung*].

(3) §8. Problem: But how is pure (i.e. without empirical content) or *a priori* intuition possible? Is this not a contradiction in terms: for an intuition must have an object (be about something), and how could an intuition *a priori* have an object at all (4:282)? So, how can the intuition of an object 'precede the object itself'? This looks like an echo of a famous passage at *CPR* A51/B75, where Kant says that 'thoughts without content are empty, intuitions without concepts are blind' (cf. Hatfield, p. 162; see also Note II, 4:288).

(4) §9. Suppose the intuition of an object *x* represents *x* as it is in itself. This is problematic. The intuition of *x in itself* rests on the miraculous 'migration' of *x*'s properties into the mind. Even so, *x* must be given to me, but then the intuition of *x* is not *a priori* (i.e. *independent* of its presence). If we assume this possibility anyway, the intuition of *x* is grounded in 'inspiration' as in Leibniz' divinely ordained pre-established harmony (between representations and objects). So, even if we *could* represent *x* as it is in itself, we could not explain how *x*'s intuition is *a priori*.

(5) §9. The pure intuition of an object as an appearance 'contains nothing else except the form of sensibility [*die Form der Sinnlichkeit*]' (4:282).

(6) §10. The possibility of pure intuition implies that in pure intuition objects are represented not as they are in themselves, but as they *appear* to us, i.e. 'objects

of the senses' (4:283). This is a key tenet of Kant's *transcendental idealism* (cf. Note I, 4:287–8; Note II, 4:289).

(7) §§7, 10. The possibility of mathematics is grounded in time and space (4:283). Remember: mathematical cognition is possible insofar as the concepts are 'constructed' in an (ideal) space and time. A thought experiment: suppose we drop an apple and eliminate all empirical information, such as its colour, the sensation of letting it go, the noise it makes when it hits the floor etc. Space and time cannot thus be thought away, they are hence 'pure intuitions that underlie *a priori* the empirical intuitions' (4:283). That is, space and time are like a frame of reference (or structures) in relation to which objects are given and cognised as located and moving.

(8) §11. Insofar as space and time are pure intuitions *a priori*, they are mere 'forms of appearance' (4: 284). So, the possibility of mathematical cognition implies that time and space are forms of appearance or sensibility. In other words, space and time are 'formal conditions of our sensibility' (4:284). Kant calls this the 'transcendental deduction' of space and time (4:285); it is close to the *CPR*'s *Transcendental Aesthetic* (A19/B33–A49/B73).[1]

3. The Paradox in §13

(1) Assumption: Space and time are intrinsic properties of things in themselves (4:285).

(2) Objects that share all intrinsic properties can be put in the place of the other.

(3) There are objects with incongruent counterparts, where this is not possible: ears, hands, and spherical figures like this one:[2]

(4) Generally, intrinsic properties or objects, and hence intrinsice differences between objects, are intelligible through concepts (i.e. discursively).

(5) Intrinsic differences between incongruent objects are not intelligible through concepts (4:286): conceptually, we cannot grasp the difference which our senses teach us is there.

(6) These intrinsic differences are not based on intrinsic properties of objects.

(7) If space and time were intrinsic properties, we could cognise them through concepts. But we cannot. Hence (1) creates a paradox.

(8) Solution: drop the Assumption: space and time is *not* absolute.

(9) There is no such paradox if space is 'the form of outer intuition' (4:286). The intrinsic differences of incongruent counterparts relates to our sensibility—it is grounded in intuition, rather than a concept: the differences are not 'grasped' at all, but 'seen', since it involves *right* and *left*, and thus a property that *relates* to space as the pure form of sensory intuition.

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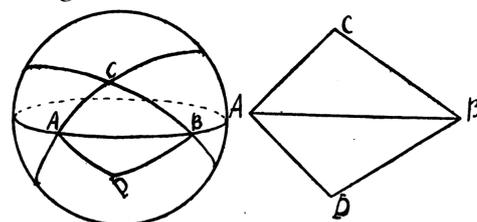
1 Exposition inspired by Shabel, L. (2012). Zu Kants Frage 'Wie ist reine Mathematik möglich?', in H. Lyre & O. Schliemann (Eds.), *Kants* Prolegomena. *Ein kooperative Kommentar* (pp. 61–84). Frankfurt: Klostermann.

2 Apel, M. (1908). *Kommentar zu Kants 'Prolegomena'*. Berlin: Buchverlag der 'Hilfe' (p.125).