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KANT ON “THE GREAT CHAIN OF BEING” OR THE EVENTUAL REALIZATION OF ALL POSSIBILITIES: A COMPARATIVE STUDY

by

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One of the most fascinating themes in the history of western thought—in any case one of the themes that have actually exerted strongest fascination on historians ideas—is the assumption which in its crude form says that in the long run everything possible happens. In a slightly more guarded formulation, it says that no possibility can remain unfulfilled through an infinity of time. In this sense, every (permanent) possibility is sometimes realized. Conversely, what is never realized is impossible, and by the same token what holds always (omnitemporally) holds by necessity.

The long-range history of this assumption was studied by A.O. Lovejoy in his famous book *The Great Chain of Being*. He misleadingly dubbed the assumption the *Principle of Plenitude*. This is misleading because the principle only asserts an equation between possibilities and their realizations in time. It can therefore be as much or as little a Principle of Paucity of Possibilities as a Principle of the Plenitude of their Realizations.

Nor is this criticism of Lovejoy only a matter of systematic or “architectonic” interest. It is directly relevant to the underlying reasons for the historical interest of the Principle of Plenitude (as we shall go on calling it in the absence of any other handy label). Because the Principle asserts the balance between possibilities and their temporal actualizations, it is sensitive not only to shifts in people’s ideas of what there actually is in the world (i.e., in their ideas of the relative richness or poverty of our universe), but also to changes in thinkers’ conceptions of what more or less hidden possibilities there perhaps lurk waiting to be realized. Since these conceptions are often highly important but difficult to approach directly, the Principle of Plenitude becomes a useful indicator of such partly or completely tacit assumptions concerning the range of ontological and physical options there are. The wider the purview of these possibilities grows, the harder it becomes for philosophers (and other speculative thinkers) to maintain the Principle. Conversely, every restriction in the scope of the contingencies one has to consider makes it easier *ceteris paribus* to uphold it.

For instance, the gradual disenchantment of late medieval thinkers with the Principle of Plenitude is one of the best symptoms of that important broadening of the store of possibilities which in the late Middle Ages served “to push the examination of questions beyond the confines of the physical possibilities licit within Aristotelian natural philosophy into the broader field of what was logically permissible”, to speak with John Murdoch who emphasizes the role of this development not only in medieval theology and philosophy but also in late medieval science. If there is any reason to qualify Murdoch’s statement, it is the absence of any real distinction between “physical” and “logical” possibilities in Aristotelian thought. But this observation only enhances the novelty of late medieval innovators’ venture to the field of what is only logically permissible.

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It is characteristic of Lovejoy's approach that in dealing with the Renaissance period his main attention is attuned to the widening of the sphere of people's ideas about the actual universe. But this pertains only to one half of the equation that the Principle of Plenitude is, to realizations and not to possibilities. It is in this respect a sobering thought that in spite of the tremendous expansion of the intellectual boundaries of the actual world only exceedingly wild thinkers in the stamp of Bruno could find these boundaries wide enough to uphold the Principle. For all others, possibilities had multiplied even faster than their presumed realizations.

In Kant, we are confronted with an essentially different historical situation. What is even more important, the general direction on development is different in his case from what we find with the medievals. One way of looking at the overall impact of his philosophy is to say that by emphasizing the concept of possible experience and the limitation of legitimate human conceptual thought to this possible experience, Kant in effect carved out of the wealth of all absolute possibilities a much narrower range of options, the humanly or empirically possible ones. This way of looking at the upshot of Kant's philosophy is lent contemporary interest by Hintikka's recent arguments, modified and developed further from Quine's well-known attacks on quantified modal logic, that an unrestricted use of logical (analytical or conceptual) modalities is pragmatically impossible if we want to use them in conjunction with such staple concepts as individual, identity, and quantification. For if these arguments are well taken, it follows that the only way of saving logical modalities is to restrict somehow the realm of "possible worlds" we are considering. And this is just what Kant is doing on the view here suggested. Hence it would appear that Kant's thinking offers us an interesting example of a pioneering foray into a direction which we are all just now being inexorably pushed by the development of the semantics and pragmatics of modal logic.

The purpose of this paper is to supply some indirect evidence for this way of looking at Kant's achievement. Again, the ill-named "Principle of Plenitude" performs its symptomatic function extremely well, we shall argue. Already the overall development of Kant's relationship to the Principle matches the expectations which our general view of its role as an ontological balance sheet naturally give rise.

Kant's early views are well in line with Lovejoy's main emphasis. Lovejoy considers the Principle of Plenitude well-nigh exclusively from the vantage point of the richness of the realizations of possibilities, not from the direction of the paucity of the set of these possibilities themselves. Furthermore, he has largely in mind only one possible source of this richness, viz. the plenitude of the creation of the universe. In general, the idea of creation is important for Lovejoy's outlook on the Principle of Plenitude. A corollary to this outlook is Lovejoy's inability to cope with the attitude of those thinkers for whom the notion of creation played a subordinate or negligible role. Thus he gets Plato's and Aristotle's views neatly upside down. He claims that Plato accepted the Principle but that Aristotle did not, whereas the truth is much closer to the opposite.

Furthermore, it may be expected on the basis of an accurate appraisal of the Principle as a mere equation that its applicability to a sufficiently omnipotent creator easily becomes problematic in that neither its attribution to nor its denial from God makes much sense. The reason for this is that the Principle presupposes an independently specifiable range of possibilities whose realizations are at stake. Leibniz' possible worlds are perhaps the clearest cases in point. However, as soon as a thinker conceives of the realm of possibilities as being themselves created by a Divine decree, it almost becomes a matter of intellectual and theological taste whether we say that *all* possibilities are thereby *ipso facto* "realized", or whether

we want to put the shoe on the other foot and to say that since God could have established a different set of possibilities, He has left something undone that He has the power to do. Yet this choice makes all the difference to the Principle of Plenitude as applied to God. This confusion can be found repeatedly in the actual historical material.

Be this as it may, the pre-critical Kant does Lovejoy proud in his emphasis on the connection between plenitude and creation. While still in his dogmatic slumbers Kant professed to something very much like the Principle of Plenitude. In his *Allgemeine Naturgeschichte und Theorie des Himmels* (1755) he adheres to this doctrine, and motivates it by reference to the idea of infinite creation. God's creation of the world is without limits. The primary matter he has (directly) created is so "rich" that in the course of eternity it shall realize all possibilities.

And hence it may be laid down, with good reason, that the arrangement and institution of the universe comes about gradually, as it arises out of the provision of the created matter of nature in the sequence of time. But the primitive matter itself, whose qualities and forces lie at the basis of all changes, is an immediate consequence of the Divine existence; and that same matter must therefore be at once so rich and so complete, that the development of its combinations in the flow of eternity *may extend over a plane which includes in itself all that can be*, which accepts no limit, and, in short, which is infinite. (*Universal Natural History and Theory of the Heavens*, tr. by W. Hastie, The University of Michigan Press, 1969, Ann Arbor, Mich., p. 140, our italics.)

The same year 1755 Kant published his "Habilitationsschrift" *Principiorum primorum cognitionis metaphysicae nova dilucidatio*. The upshot of his discussion of possibilities and their realizations there is the same as in *Allgemeine Naturgeschichte*, but the explicit motivation is somewhat more complicated. The central thesis of this dissertation is the so-called principle of sufficient reason or, as Kant preferred to call it, of determining reason. According to this principle everything has its determining reason; no contingent being can come to be without its existence having an antecedent determining reason. Since there cannot be an infinite regress of these determining reasons, there has to exist a being whose existence precedes its possibility. This is the necessary being, God.

We are thus witnessing in these pre-critical writings of Kant's a full-dress rehearsal of several of the grand metaphysical themes Lovejoy so lovingly described. Indeed, what Kant is worried about is but the venerable problem of theodicy. God has just been found to be the first determining reason for everything else, a necessary precondition for the possibility of all other beings. Since nothing therefore can come to being without its determining reason, so that in a sense only what happens can happen, and what doesn't happen cannot happen. God seems to bear the moral responsibility for everything that happens in the world. (For God cannot be imagined without the other main precondition of responsibility, knowledge of the effects of His work of creation.) How is it then to be understood that God has decided to create the world like this, when he must have been aware ahead of time that his act of creation already included all the undeniable future evils and defects in the outcome of His creative activity? How is this consistent with God's goodness which ought to make Him shy away from all evil? And Kant answers:

Die Unendliche Güte Gottes strebt nach der möglichst grossen Vollkomm-

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enheit der geschaffenen Dinge und nach dem Glück der Geisterwelt. In diesem unendlichen Streben, sich zu offenbaren, hat sie ihre Mühe nicht bloss auf die vollkommeneren Reihen ihrer Ergebnisse, welche sich dann der Reihe der Gründe gemäss weiter entwickeln sollten, verwendet, sondern damit nichts auch von den Gütern niederen Grades fehle, *damit die ganze Welt in ihrer Unermesslichkeit alles, von der höchsten dem Endlichen möglichen Stufe der Vollkommenheit bis zu allen niederen und bis auf sozusagen das Nichts umfasse* (our italics) hat er auch gestattet, dass Dinge in seinen Abriss sich einschlichen, die trotz der Beimischung überwiegender Übel wenigstens etwas Gutes, das Gottes Weisheit daraus hervorlockte, zur Offenbarung des göttlichen Ruhmes durch ihre unendliche Mannigfaltigkeit beitrugen. (Immanuel Kant, *Zur Logik und Metaphysik*, Erste Abteilung: Die Schriften von 1755-65. Ed. by Karl Vorländer, second ed., Leipzig, 1921, pp. 32-33.)

In other words, the Principle of Plenitude is what Kant resorts to in order to “justify God’s ways to men”.

These pre-critical ideas of Kant’s are scarcely original. However, we shall not examine here their background in eighteenth-century German thought except for pointing out that they are not Leibnitian in that Leibniz emphatically rejected the Principle of Plenitude. However, the Principle was prevalent both in the Wolffian tradition and outside it (it is for instance found in Herder) so that Kant had plenty of immediate precursors in these respects. His theodicy is likewise a variant of well-known themes whose genealogy is partly delineated by Lovejoy.

Anyway, the answer to the theodicy problem just indicated did not satisfy Kant for long. In his essay “Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes” (1763) Kant still holds that there has to be a necessary being whose existence constitutes a ground for the possibilities of all other beings. This necessary being, God, is a “first real ground of absolute possibility” and includes in itself everything thinkable. But now Kant disengages himself from his former line of thought; he draws a distinction which makes sense only if there exist unrealized possibilities. Kant must have reconsidered the problem of God’s responsibility, because he now says:

Ich nenne diejenige Abhängigkeit eines Dinges von Gott, da er ein Grund desselben durch seinen Willen ist, *moralisch*, alle übrige aber ist *unmoralisch*. Wenn ich demnach behaupte, Gott enthalte den letzten Grund selbst der innem Möglichkeit der Dinge, so wird ein jeder leicht verstehen, dass diese Abhängigkeit nur unmoralisch sein kann; denn der Will macht nichts möglich, sondern beschliesst nur, was als möglich schon vorausgesetzt ist. (*Werke II*, ed. by Ernst Cassirer, Berlin, 1922, p. 106.)

In respect to “inner” possibilities (i.e., those permanent possibilities in which we are here interested) Kant thus has as it were “intellectualized” them; he has now located them in God’s thought and separated them from God’s will. (This is a distinction which Descartes, as we shall later see, did not make.) Possibilities now have their own mode of being independent of their realizations, and Kant finds no reason any more to maintain their unconditional realization.

In his demonstration of God’s existence Kant makes another distinction that is going to remain a fixture of his thinking from then on. He separates in the concept of possibility logical and real “aspects”. (Both of these concern inner possibilities.)

Ein Triangel, der einen rechten Winkel hat, ist an sich selber möglich. Der Triangel sowohl als der recht Winkel sind die Data oder das Materiale in diesem Möglichen, die Übereinstimmung aber des einen mit dem andern nach dem Satze des Widerspruchs sind das Formale der Möglichkeit. Ich werde dieses letztere auch das Logische in der Möglichkeit nennen, weil die Vergleichung der Prädikate mit ihren Subjekten nach der Regel der Wahrheit nichts anders als eine logische Beziehung ist: das Etwas oder was in dieser Übereinstimmung steht, wird bisweilen das Reale der Möglichkeit heissen. (*Werke*, Vol. II, ed. by E. Cassirer, p. 82.)

Logical possibility is, according to Kant, only formal possibility, and without material for thinking it is bound to remain empty. Thus every possibility has to ground itself in something real. If nothing were to exist, there would not be anything to think about, and accordingly nothing would be possible and everything impossible.

In the year 1770, in the year of his dissertation *De Mundi sensibilis atque intelligibilis forma et principiis*, Kant already stands on the threshold of his critical philosophy. This work was intended as a propedeutic to metaphysics, and its chief aim was to draw a boundary between the sensible and the intellectual modes of knowledge. Metaphysics was to be a science that would yield the supreme principles of the use of pure understanding. Besides sensible knowledge (*cognitio sensitiva*) there is, Kant says, also rational or intellectual knowledge (*cognitio intellectualis rationalis*). This intellectual knowledge refers to the intelligible world, to its objective principles, and to its denizens, the things in themselves. In analogy to the distinction Kant had made in his proof of God's existence, he now distinguishes in the use of understanding two modes. The real use (*usus realis*) is the one through which concepts of things and relations are given to us, while the logical use (*usus logicus*) means comparing these concepts with one another according to the law of contradiction. The results of the real use of understanding, intellectual concepts, are pure ideas (*ideae pura*), i.e., they are given in pure reason. They are not abstracted from experience and hence owe nothing to it. Among these intellectual concepts Kant lists possibility, existence, necessity, substance, and cause, together with their opposites and correlates (§8).

From this intellectual world we have no intuition, only symbolic knowledge (*cognitio symbolica*). Pure reasoning proceeds always in terms of general concepts *in abstracto*, never in terms of singular representation *in concreto*. Intellectual concepts as such are empty of all intuitive content, at least for us human beings. But this is something we do not always grasp. Our reason is seduced by illusions and mixes the sensible with the intellectual. Kant calls "deceitful axiom" (*axioma surreptitium*) a statement that attaches something sensible by necessity to everything intellectual. To refute this illusion Kant lays down his principle of reduction:

Wenn von einem beliebigen Verstandesbegriff etwas allgemein ausgesagt wird, was zu den Beziehungen von Raum und Zeit gehört: so darf es nicht objektiv ausgesagt werden und bezeichnet nur die Bedingung, ohne welche der gegebene Begriff nicht sinnlich erkennbar ist (§25).

If the subject of a proposition is an intellectual concept and the predicate a sensible one the proposition cannot be taken to be objectively valid. We cannot say: "Everything that exists, is somewhere (*quidquid existit, est alicubi*) because we are not allowed to restrict existence as such to conditions of our sensible knowledge, in the

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example at hand, space.” But conversely we *can* say: “Everything that is somewhere, exists.” In other words, our intellectual concepts “cover” our sensible ones, but not vice versa (§24).

One mode of this illusion through which sensible cognition can steal into an intellectual concept is the following.

Die nämliche sinnliche Bedingung, unter der die *Unterordnung* irgend eines vorkommenden *Gegenstandes unter einen gegebenen Verstandesbegriff* allein möglich ist, ist auch die Bedingung der Möglichkeit des Gegenstandes selbst (§26).

The sensible conditions, according to which *we* decide if something belongs to the extension of given intellectual concept, are not the conditions on which a thing in itself belongs to the extension of that concept. That is why it is not true to say: Everything contingent sometimes fails to exist (*quidquid existit contingenter, aliquando non existit*) (§29).

Now the rejection by Kant of this proposition means a rejection of the Principle of Plenitude. The proposition is implied by the Principle of Plenitude. For contingency means precisely that for which it is possible not to exist. Hence the proposition claims that every possibility of that kind is sometimes realized. Kant does not accept the proposition, and accordingly rejects the Principle. This kind of proposition is a product of the “poverty of reason” (*penuria intellectus*) (§29), he says. In it, a knowing subject has imposed his own limitations on the objects in themselves presuming that “marks of identification” fetched from his experience are also those of the thing in itself. The best we can do is the following “subjective statement”.

Wovon nicht feststeht, dass es irgend einmal nicht gewesen ist, von ~~dessen~~ Zufälligkeit gibt es nach dem gemeinen Verstand keine genügenden Merkmale (§29).

From the possibility of a thing in itself (i.e., from its possibility as the intellectual concept that it is) we can say nothing that would limit it to the conditions of space and time. Our actual use of understanding (and of its products) does not reduce to our sensibility: What is given to us in understanding is often separated by a chasm from what is given to us in intuition.

Denn dieser Widerstreit zwischen dem sinnlichen und *denkenden* Vermögen...zeigt nur an, dass die Seele die von dem Verstande empfangenen *abstrakten Vorstellungen oft nicht in concreto auszuführen und in Anschauungen zu verwandeln vermag* (§1).

Here it is seen especially clearly how Kant’s attitude to the Principle of Plenitude depends on, and is an indication of, his assumptions concerning the range of possibilities we have to keep an eye on. For his rejection of the Principle in 1770 is a consequence of extending the range of serious “intelligible” possibilities far beyond what we can hope to find in experience.

These precritical views of Kant’s are “uncritical” in that they leave open a host of important questions. What is the abstract symbolic knowledge like which he postulates and which is not reducible to intuition? How does Kant for instance know, as he claims to know, that “this world, even though it exists contingently, is eternal” (§29)? What is the source of this knowledge and its non-intuitive criterion?

Attempts to patch up these gapped Kant gradually to his critical maturity. In doing so he adopts the Principle of Plenitude again, but now in a revised “critical” form. Neither this double change of mind away from the Principle of Plenitude and back again to a qualified form of the Principle nor its connection with the general development of Kant’s thought is registered neither by Schneeberger or by Pape.

In the *Critique of Pure Reason* Kant preserves his distinction between logical and real possibility. A *concept* is possible if it is not self-contradictory. This is the logical mark of possibility (B 625). But this logical possibility makes the concept possible only according to the analytical conditions of cognition. A logically possible concept can still remain “empty”, i.e., uninstantiated. Kant explicitly warns us not to confuse such a logical possibility of a concept with the real possibility of a thing.

For to substitute the logical possibility of the *concept* (namely, that the concept does not contradict itself) for the transcendental possibility of *things* (namely, that an object corresponds to the concept) can deceive and leave satisfied only the simple-minded (B 302).

It is scarcely surprising that after Kant has equated the transcendental (real) possibility of a thing with the fact that there really is a thing corresponding to the given object, he can indicate his regained qualified approval of the Principle of Plenitude with respect to *possibilities of experience*.

If, therefore, I represent to myself all existing objects of the senses in all time and in all places, I do not set them in space and time (as being here) prior to experience. This representation is nothing but the thought of a possible experience in its absolute completeness (B 523-524).

All spatio-temporally existing objects of senses thus make up all the possible objects of experience. Likewise after having asked whether “the field of possibility is larger than the field which contains all actuality” (B 282), Kant declares:

It does indeed seem as if we were justified in extending the number of possible things beyond that of the actual, on the ground that something must be added to the possible to constitute the actual. But this (alleged) process of adding to the possible I refuse to allow. For that which would have to be added to the possible, would be impossible (B 284).

How is this qualified return of Kant to the camp of the supporters of the Principle of Plenitude to be understood? What caused Kant to change his views about possibilities and their realizations so radically? What is involved is a fundamental revision of Kant’s ideas about the distinction between sensibility and understanding. In the first *Critique* there is no longer the unbridgeable gap between them that Kant postulated in *De Mundi...*

Objects are *given* to us by means of sensibility, and it alone yields us *intuitions*; they are *thought* through the understanding, and from the understanding arise *concepts*. But all thought must, directly or indirectly, by way of certain characters, relate ultimately to intuitions, and therefore, with us, to sensibility, because in no other way can an object be given to us (B 33).

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When we are discussing the transcendental, real possibilities of things (objects) we therefore have to stay within the purview of sensibility, i.e., within the sphere of *empirical thinking*. According to Kant’s postulate of empirical thought

that which agrees with the formal conditions of experience, that is, with the conditions of intuition and of concepts, is *possible* (B 265).

In a sense the concept of possibility has thus lost its earlier status of an intellectual concept and a pure idea. Admittedly it is still included among concepts of pure understanding. It is still a category. However, this “purity” of the concept of possibility is only relative. At least indirectly all categories have to be related to sensibility. Categories are “a priori conditions upon which experience in general in its formal aspects rests”. In this case the concept still belongs “to experience inasmuch as its object is to be met with only in experience” (B 267).

In another sense these categories are of course still “pure”. They are given to us by “pure synthesis” (B 104), not by the experientially grounded empirical synthesis through which empirical concepts are given (B 267). Therefore, since categories, “yielding knowledge of *things*, have no kind of application, save only in regard to things which may be objects of possible experience” (B 147-148), they have to be tied somehow to experience. This tie is accomplished by what Kant calls the “transcendental schemata” of categories.

Now every concept has its own *schema*, i.e., a rule that make the content of the concept “intuitive” through general representation. Pure concepts of understanding have their transcendental schemata. Since pure concepts of understanding are “quite heterogeneous from empirical intuitions” (B 176) there is a problem of how categories can be applied to appearances. Obviously, Kant says, there has to be “some third thing” which is homogeneous on the one hand with categories and on the other hand with appearances, in order to make the application of the former to the latter possible. This “third thing” is precisely the transcendental schema of the given category (B 177). These transcendental schemata in turn owe their ability to accomplish this connection completely to the form of inner intuition, which is for Kant *time*. In fact they are “nothing but a priori determinations of time in accordance with rules” (B 184). Kant likewise says that the real mediator between categories and appearances is the “transcendental determination of time” which is “so far homogeneous with the category...in that it is universal and rests upon a *a priori* rule” and homogeneous with appearance “in that time is contained in every empirical representation of the manifold” (B 177-178). In each schema time is determined differently. The schema of possibility is

the agreement of the synthesis of different representations with the conditions of time in general. Opposites, for instance, cannot exist in the same thing at the same time, but only the one after the other. The schema is therefore the determination of the representation of a thing at some time or other (B 184).

The difference between the schemata of possibility and actuality (which is: existence at some determinate time, (B 184) does not lie in *whether* but in *how*, an object belongs to time. Since Kant, in his doctrine of transcendental idealism, had stated that

everything intuited in space or time, and therefore all objects of any exper-

ience possible to us, are nothing but appearances, that is, mere representations, which, in the manner in which they are represented, as extended beings, or as series of alterations, have no independent existence outside our thoughts (B 518-519),

it is clear that Kant's reference to "the representation *of a thing*" in the schema of possibility does not introduce any unthought things in themselves. The difference between possibility and actuality does not lie in the objects, but merely in the character of their relationship to the knowing subject. What has to be added, according to Kant, to possibility in order for it to reach actuality "is only a relation to my understanding, that...there should be connection with some perception" (B 284). Because whatever is connected with perception *is* actual, the difference lies only in that whether this connection is achieved *now* or only sometimes.

A schema is a "condition of judgement" (*Bedingung der Urteilskraft*) for the categories, without which we could not subsume anything under them (B 304). As such they obviously are restrictive conditions. Moreover, for Kant the "tie" that connects these concepts of understanding to the conditions of sensibility, i.e., their schematization, is indispensable for them to have *any* significance whatsoever.

The schemata of the pure concepts of understanding are thus the true and sole conditions under which these concepts obtain relation to objects and so possess *significance*. In the end, therefore, the categories have no other possible employment than the empirical (B 185).

On the basis of these assumptions Kant asks, as if the question were addressed to his earlier self, what else could be understood by contingency than the possibility of non-being, and how else we could know this but from representing to ourselves a series of appearances which involve a change from being to non-being or conversely (B 301). His implicit answer is of course: from nothing else.

We can thus see how Kant's qualified re-adoption of the Principle of Plenitude flows from the same source as his introduction of the schemata. This common source is his restriction of the legitimate use of the concepts of understanding to possible experience. This is in keeping with the general outlook on Kant's critical philosophy mentioned above.

This appears indirectly also from the qualifications Kant makes in connection with the notion of real or empirical possibility. Kant warns us that, even though our concept of possibility is meaningful only in its schematized form, this is merely a consequence of *our* mode of cognition. For us humans the possible comprises only what is in accordance with the transcendental conditions of cognition, but in a sense these conditions themselves are only possible. Thus

what is possible only under conditions which themselves are merely possible is not in *all respects* possible. But such (absolute) possibility is in question when it is asked whether the possibility of things extends further than experience can reach (B 284).

But this concept of absolute possibility (possibility in *all respects*) is to be firmly distinguished from the category of possibility. It "is no mere concept of understanding, and can never be employed empirically. It belongs exclusively to reason, which transcends all possible empirical employment of the understanding" (B 285).

This distinction is important also the other way round. Our category of possibil-

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ity cannot refer to things in themselves. This is a mistake of the “transcendental realism” and it is to be avoided. Hence even though sensibility has gained ground in Kant’s thought since *De Mundi...*, it has to be prevented from getting too “arrogant”. This is to be done by means of the concept of understanding and by means of the concept of *noumenon*—“that is, of a thing which is not to be thought as object of senses but as a thing in itself, solely through a pure understanding” (B 310).

The role of the concept of noumenon is mainly a negative one. It is a limiting concept, “the function of which is to curb the pretensions of sensibility” (B 311), i.e., to deflect

der Anmassungen des (schematisierten) Verstandes als ob er (indem er a priori die Bedingungen der Möglichkeit aller Dinge, die er erkennen kann, abzugehen vermag) dadurch auch die Möglichkeit aller Dinge überhaupt in diesen Grenzen beschlossen habe. (*Critique of Judgement*, preface to the second edition, (additions by Pape)).

Noumena are not a special kind of objects (intelligible objects) for our understanding. By their means our understanding acquires only “negative extension”, Kant says (B 312). As such, they are indispensable to remind us that noumena are not accessible to our understanding, including our concepts of (empirical) possibility. Even though thus we cannot claim any validity for our concepts of noumena, we still can have an understanding of noumena “problematically”, Kant says (B 310). But, positively speaking, for us humans noumena are neither possible nor impossible (B 343). They are simply beyond our categories. *A fortiori*, they cannot yield for us a genuine counter-example to the Principle of Plenitude.

Prima facie, Kant’s attitude to the Principle of Plenitude might seem to resemble rather closely that of Thomas Aquinas. This saint had also held adopting the interpretation ably defined by Simo Knuuttila (see “Jumalan mahdollisuuksein lisaantyminen keskiajalla” *Teologinen Aikakauskirja* (1974), pp. 105-121) that the Principle is valid only for human possibilities but not for absolute (Divine) ones. Aquinas’ viewpoint, like Kant’s is basically epistemological. According to him (and here we follow Knuuttila rather closely), at the bottom of human epistemic possibilities there is always something real. Each and every universal is obtained from reality through sense-perception, and these abstract concepts are the elements of all our cognition. Knowledge consists in *compositio* and *divisio* carried out by the human intellect when it unites that which is united *in re* and separates that which is separated *in re*. *Possibilia secundum potentiam* are for Thomas natural possibilities, and with respect to them the Principle of Plenitude holds good, for we can obtain the concept (form) of such a possibility only in virtue of its having been realized in the world. These possibilities are the only possibilities *we* know.

But there is also another kind of possibility, absolute possibility, *possible absolutum*, which is defined as freedom from contradiction. In the sphere of these absolute possibilities the Principle is no longer tenable according to Thomas.

In our human situation we can only form such compositions as are always (by necessity) or sometimes (possibly) actualized *in re*. The reason for this is of course the way in which our ideas of possibility are according to Aquinas derived from the actual *res* and which was just mentioned. For the same reason, our epistemic possibilities are inseparable from physical possibilities. Hence all examples Thomas can give us of epistemic possibilities should also be ontologically real possibilities. But absolute possibilities are also in another sense epistemic ones. They are in effect *God’s* epistemic possibilities. (Hence the denial of the validity of the Principle of Plenitude by Aquinas with respect to absolute possibilities is probably calculated to

uphold God's freedom from all necessity to actualize all *his* possibilities.) Although all the possibilities of nature are absolute possibilities, the converse does not hold. However, we cannot *know* any of those supernatural absolute possibilities. These are only known by God, and they relate to orders of being quite different from those of which a human mind can have any idea.

But although human beings cannot be acquainted by means of their natural epistemic capacities with these absolute possibilities which are known only by God, they can *know that* the range of absolute possibilities exceeds the created reality. It is possible to deduce from this real universe the existence of God and the independence of *His* possibilities from the possibilities of nature (and thus from the possibilities accessible to human cognition).

Thus there is a certain similarity between absolute possibilities according to Aquinas and according to Kant. Neither can be reached by the normal operations of the human understanding, and yet the idea of such possibilities is indispensable.

This similarity between Kant and Aquinas is in keeping with the fact that for Kant as for Aquinas absolute possibilities are in a certain sense humanly incomprehensible. This is vividly shown, in the case of Aquinas, by a quotation given by Knuuttila (p. 117) where St. Thomas speaks of the union of Christ's human and divine natures:

sed haec est quaedam unio singularis supra omnes modos unionis nobis notos....Et ideo, sicut virtus eius non est limitata ad istos modos bonitatis et esse qui sunt in creaturis, sed potest facere novos modos bonitatis et esse nobis incognitos;... (*De Unione Verbi Incarnati q. un., a. 1c.*)

Kant, on his part, likewise affirms that we cannot make to ourselves slightest representations of the possible objects of intellectual intuition. *We* are bound to our forms of intuition and understanding (B 311-312).

Other forms of intuition than space and time, other forms of understanding than the discursive forms of thought, or of knowledge through concepts, even if they should be possible, we cannot render in any way conceivable and comprehensible to ourselves; and even assuming that we could do so, they still would not belong to experience—the only kind of knowledge in which objects are given to us (¶ 283).

This similarity of Aquinas' view with Kant's can also be looked upon from the opposite direction. Kant based his belief in the Principle of Plenitude on the way in which time is schematized. Now Kant held that there could be rational beings other than us finite humans who unlike us could have intuitions not connected with sense-perception. Here Kant clearly has in mind the relation of the infinite being, i.e., God, to particulars. The direct relation to particulars which in His case corresponds to sense-perception is creativity or, as Kant calls it, spontaneity. God beholds individuals by creating them, while our perception can never create its objects, at best the framework (i.e., space and time) into which they are structured. But if so, God would not need any schematization, and Kant's reason for adopting the Principle of Plenitude for human thinking would fail to apply to God's possibilities. This indeed seems to be at least compatible with what he says.

But the opposite conclusion seems to be equally compatible with what Kant says one can make a case for an application of the Principle to God, although not for the same reasons as to us finite beings. If God really exhibits that complete spontaneity which

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characterizes intellectual intuition, everything that exists would be given to him by *His own activity* (B 68). Man, finite and sensible being is on his part dependent on his capacity for receiving representations (on his receptivity, see B 33). We shall return to this point below in discussing Descartes.

Man, with his spontaneity of understanding, can only *think* “creatively”. For intuitions he must resort to the senses (B 135). In contrast, divine understanding would by its creativity in representing something by the same time make this “something” become existing (cf. B 139). God wouldn’t have any need to remember, or to anticipate, what happens, for He lives in an eternal present. He would not have any relation to *time*, and thus to our schematized categories.

For were I to think an understanding which is itself intuitive (as, for example, a divine understanding which should not represent to itself given objects, but through whose representation the objects should themselves be given or produced), the categories would have no meaning whatsoever in respect of such a mode of knowledge (B 145).

Thus it seems to be a matter of opinion if we say either that in respect to God’s possibilities the Principle of Plenitude holds good (everything in Him is “actual”) or that it does not hold good (our categories of actuality and possibility do not reach him). Perhaps we should rather ask to what extent the niche Kant left in his philosophy to the concept of God in the first place is to be taken very seriously. In the best case, God will be for Kant an idea which cannot be fully realized even in thinking.

Many similarities with Kant are thus in evidence in Aquinas. Among them there are the following.

- (i) Contrast between absolute and real possibilities.
- (ii) The unknowability of absolute possibilities.
- (iii) The need of nevertheless postulating these absolute possibilities.
- (iv) The equation of epistemic and natural possibilities.
- (v) Principle of Plenitude holds for real possibilities.
- (vi) The motivation of the Principle is in both cases epistemological rather than (say) ontological.

However, in spite of such similarities there obtains an important difference between Kant’s views and the teachings of St. Thomas. The difference is in fact a neat corollary to Kant’s often misunderstood “Copernican Revolution”. Aquinas bases his belief in the applicability of the Principle to all humanly conceivable possibilities on the way we obtain our conceptions of all these sundry possibilities: we receive them for actualizations of the very corresponding possibilities. Small wonder, then, that they are all actually realized.

In contrast, Kant bases his qualified belief in the realization of all experiential possibilities on the way we humans actively represent a certain concept (that of time) in our experience. The principle does not apply by courtesy of the mind-independent sources of our conceptions, but in virtue of what we ourselves do to give them an experiential manifestation. And the gist of Kant’s self-conscious “Copernican Revolution” was just to emphasize the role of our own “movements”, that is, activities in all human knowledge.

Thus both Aquinas and Kant are basing their appraisal of the Principle of Plenitude on epistemological considerations. However, Aquinas’ epistemology is in this

respect an empiricist one. We receive our concepts from their actual instantiations in the world. In contrast, Kant's epistemology is transcendental in his own sense of the word. It focuses on what we ourselves do to represent our concepts in experience, and sees in them the starting-point of "critical" philosophy. In his preface to the second edition of the *Critique of Pure Reason* Kant, "proceeding precisely on the lines of Copernicus", rejects the view that knowledge must conform to objects. Rather, he says, objects or experience must conform to concepts. As Copernicus had made the spectators move, Kant transformed the knowing subject from a still-standing and passive receiver to a "moving" or active constructor (B xvi-xvii). We shall return to the further repercussions of this difference.

On the basis of what has been said, it is clear that categories, as concepts of pure understanding, and their schemata are completely *a priori*. They are concepts to which all objects of experience must adjust themselves and with which they therefore must agree. And all objects of experience must do this because we make them to do so, because this is how our understanding operates. It is for this reason that we can be sure that all experience conforms to our categories. However, Kant's Copernican Revolution cuts even deeper than this. Even what he calls "empirical concepts", although they are "derived from experience" (B 267), are in a sense products of our own mind. They are also created by an act of synthesis, if now by an empirical one. Admittedly we *receive* representations, i.e., our mind must be *affected* in a certain way in order to prompt our creative apparatus into activity. We derive our empirical concepts from the representations of apprehension, but in fact we can so to speak *decide* what manifold of representations is united to an object. We have to lay down a rule—partly *a priori* in that we do not find this rule in representations, partly *a posteriori* in that it must be based on the received representations—which successions of representations make up an object.

...appearance, in contradistinction to the representations of apprehension, can be represented as an object distinct from them only if it stands under a rule which distinguishes it from every other apprehension and necessitates some one particular mode of connection of the manifold. The object is *that* in the appearance which contains the condition of this necessary rule of apprehension (B 236).

Concepts can thus be divided into three groups. First, there are the concepts of pure understanding, categories, secondly, there are concepts created by the "objective reality of synthesis" (B 624), i.e., by synthesis contained in experience. Thirdly, there are empty concepts to which we also have given rise by our ability to think creatively but which do not find their counterpart in experience. These are accordingly not concepts of possible objects.

In short, according to Kant we combine successive representations of apprehension into a single object and thus derive the concept of this object. Then we state that objects that conform to such concepts are *possible* objects. To be able to decide whether a concept is an empty one or a concept of a possible object, it has to be shown that it really has been created by an objectively real synthesis. This Kant must have meant when he wrote:

But it (i.e., a concept) may none-the-less be an empty concept, unless the objective reality of the synthesis through which the concept is generated has been specifically proved; and such proof, as we have shown above,

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rests on principles of possible experience, and not on the principles of analysis (the law of contradiction). This is a warning against arguing directly from the logical possibility of concepts to the real possibility of things. (B 624, footnote.)

Thus what has happened is that Kant, in becoming “critical” and in adopting again that once so sternly rejected Principle of Plenitude, has not so much widened the sphere of realizations to match the range of possibilities as reduced the field of possibilities and made them adjust themselves to actualities. What is especially noteworthy here, Kant’s re-adopting of the Principle is a consequence of his “Copernican” emphasis on the role of human activity (constructivity) in bringing about this adjustment of possibilities to actualities.

It is of course virtually impossible that the views of Aquinas on modality should have exerted any influence on Kant, by agreement or by disagreement. However, another thinker whose speculative ideas are in certain relevant respects not so far from Aquinas clearly did influence Kant. This philosopher is Descartes. He presents in fact interesting similarities and dissimilarities both with Kant and with Aquinas. If we look at the thinking of Descartes from the epistemic point of view, we find as his primary datum the famous “clear and distinct ideas”. Descartes takes it to be a “first principle” that there is “nothing in the effect that has not existed in a similar or in some higher form in the cause” (*The Philosophical Works of Descartes*, Vol. II, tr. by Haldane & Ross, p. 34.) For this reason he can also say that “every perfection existing objectively in an idea must exist actually in something that causes that idea” (*ibid.*, p. 35). After demonstrating the existence of God, “who is all perfection and truth”, Descartes sees that “our ideas or notions, which to the extent of their being clear or distinct are ideas of real things issuing from God, cannot but to that extent be true” (Vol. I, p. 105).

In view of our theme it is interesting to see that these clear and distinct ideas can also be understood as permanent possibilities. For in a sense we can apprehend as possible only that which we have a clear and distinct idea about. If so, we see that according to Descartes we can apprehend as possible only what is actual.

But we possess the idea of a power so great that by Him and Him alone, in whom this power is found, must heaven and earth be created, and a power such that likewise whatever else is apprehended by me as possible must be created by Him too (Vol. II, p. 59).

This “must” which seems to be decreed by Descartes on God greatly offended Leibniz, who called Descartes’ assumption “the first falsehood and the basis of atheistic philosophy”. In reality, this assumption is but the good old Principle of Plenitude. (See Hintikka, “Leibniz on Plenitude, Relations, and ‘the Reign of Law’”.)

Like Aquinas (and later Kant) Descartes also saw that these possibilities available to human understanding by no means could be taken as exhausting the sphere of absolutely all possibilities. We must remember, he states as his principle xxiv of the *Principles of Philosophy*, that “our understanding is finite, and the power of God infinite.” As a hint of those possibilities that we don’t understand clearly God has revealed mysteries of incarnation and the Trinity, among others. We have to believe in them, although they surpass the range of our natural power of intelligence. “For we should not think it strange that in the immensity of His nature, as also in the objects of His creation, there are many things beyond the range of our comprehension” (Vol. I, p. 229).

Descartes' God is thus rather like the creatively and intellectually intuiting God of Kant's philosophy. For Him there is no distinction between possibility and actuality. In a letter to Mersenne (May 6, 1630) where Descartes speaks about God's relationship to truth, he uses the terms "possible" and "true" alternatively.

As for the eternal truths, I say once more that *they are true or possible only because God knows them as true or possible. They are not known as true by God in any way which would imply that they are not true independently of Him* (*Philosophical Letters*, tr. and ed. by Anthony Kenny, Clarendon Press, Oxford, 1970, p. 13.)

This is because God's will is in a position fundamentally different from ours. He does not have any pre-existing options to choose from. Nothing exists before God's act of will.

As to the freedom of will, a very different account must be given of it as it exists in God and as it exists in us. For it is self-contradictory that the will of God should not have been from eternity indifferent to all that has come to pass or that ever will occur, because we can form no conception of anything good or true, of anything to be believed or to be performed or to be omitted, the idea of which in the divine understanding before God's will determined Him so to act as to bring it to pass. (*Philosophical Works of Descartes*, Vol. II, p. 248.)

Descartes' God thinks "creatively", i.e., thought cannot be separated from will in a case of God. We cannot speak of any universe of ideas of existing before the act of creation or "of ideally *pre-existing* 'possible worlds'", as Ingetrud Pape aptly puts it in her *Tradition und Transformation der Modalitat*, p. 75. God's cognition and His will are one and the same.

If men really understood the sense of their words they could never say without blasphemy that the truth of anything is prior to the knowledge which God has of it. In God willing and knowing are a single thing in such a way that *by the very fact of willing something he knows it and it is only for this reason that such a thing is true.* (*Philosophical Letters*, pp. 13-14.)

Not even the law of contradiction can bind this creatively thinking God. He would have done possible things he actually made to be impossible. He has *decided* what things stand in contradiction to each other; and even those contradicting relationships are necessary (to us) it must not be necessary for God to make it so.

I turn to the difficulty of conceiving how it was free and indifferent for God to make it not true that the three angles of a triangle were equal to two right angles, or in general that contradictories could not be true together. It is easy to dispel this difficulty by considering that the power of God cannot have any limits, and that our mind is finite and so created as to be able to conceive as possible things which God has wished to be in fact possible, but not to be able to conceive as possible things which God could have made possible, but which he has in fact wished to make impossible... But if we would know the immensity of his power we should not put these thoughts before our minds, nor should we conceive any precedence or pri-

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ority between his understanding and his will; for the idea which we have of God teaches us that there is in Him only a single activity, entirely simple and entirely pure. This is well expressed by the words of St. Augustine: *They are so because you see them to be so; because in God seeing and willing are one and the same thing.* (*Philosophical Letters*, p. 150-151.)

Now the law of contradiction presumably will never be actually violated. For it surely is based on most “clear and distinct” ideas. Hence the realization of all possibilities cannot in some sense apply to God. The range of possibilities we saw Him realizing according to Descartes can only be the range of *natural* possibilities, which presumably is what our “clear and distinct” ideas are all about anyway. As in Aquinas, so in Descartes the Principle of Plenitude apparently does not apply in any obvious sense to the characteristically *divine* possibilities.

However, here the problem mentioned earlier hits us (and Descartes) with vengeance. The Cartesian God is an *actus purus* in a peculiarly strong sense. He creates all possibilities, too, and not only their actualizations. Hence it sounds perfectly absurd for Descartes to speak of God’s possibilities He has not realized. Yet we must at the same time say that He does this freely, which implies that there are “things which God could have made possible” but which He in fact has made impossible. These are of course humanly incomprehensible, but they come dangerously close to being nonsensical, too. This is an instance of the problems that come about in applying the Principle of Plenitude as soon as we cannot assume a neat pre-existing range of possibilities. Indeed, the collapse of possibility and actuality as well as of the notion of possibility to God, except in the qualified sense of natural possibilities. This is clearly reminiscent of Kant.

The most interesting partial analogy may nevertheless obtain, not between Descartes’ and Kant’s theological ideas, but between the Cartesian God and a Kantian man. In so far as the Principle of Plenitude applied to the Cartesian God, it is because He has through His own creative activity *defined* what counts as possible and impossible. Likewise, the reason why the Principle holds for a Kantian man was found to be that we ourselves as it were define what is and what isn’t possible experience by imposing our own terms on all such experience. On different levels, these terms are embodied in the forms of sensibility, in the categories, and in their role in empirical synthesis, as well as in the schemata. Quite apart from the details of Kant’s account, it thus looks as if Kant has stolen some of the creative liberty of the Cartesian God and awarded it to Man.

From the vantage point of this partial analogy we can at least understand what the main problem with Kant’s theory of possibility was bound to be, and why. Ingegrud Pape has written:

Aus dieser Frage ergibt sich für Kant jene kühne ‘Idee’, die vielleicht das neuartigste Moment seiner gesamten Modaltheorie ausmacht. Am revolutionierendsten nämlich ist der Gedanke, dass die Modalitäten überhaupt *nur* Aspekte *unseres* Verstandes darstellen, d.h. dass sie weder der Sache an sich, noch einem anders strukturierten Verstande zukommen müssen. Sieht man das in dem ganzen Horizont seiner Folgen, so zeigt sich zuletzt das verblüffende Faktum, dass die Einsetzung der Modalität zum systematischen Thema, wie sie erstmalig in der Problemgeschichte bei Kant sich vollzog, *zugleich* und in selben Akt ihre Aufhebung als metaphysischer Thema bedeutet.... (Pape, p. 234.)

However, this “Aufhebung” of the traditional conception of modality is but a corollary to the problem we discussed in connection with Descartes concerning God’s primacy vis-a-vis the range of possibilities. When Kant puts man in the role of God in establishing himself what *counts* as possible, the same puzzles are bound to arise. Such a role assigned to human thinking is bound to eliminate to some extent the boundary of possibility and actuality, which is reflected by Kant’s precarious re-adoption of the Principle of Plenitude. Perhaps even more importantly, it is also bound to make the very concept of possibility problematic, for we cannot in one and the same logical breath say that we humans have established what counts as possible, and that this *could* in principle be done differently, i.e., that it is *possible* that this decision should have been made otherwise. But this is precisely Descartes’ predicament in speaking of his conceptually creative God.

This predicament is also reflected by such Kantian pronouncements as bear on the Principle of Plenitude. The reader has probably shared some of our frustration at not being able to produce a completely unequivocal avowal of the Principle from Kant’s mature philosophy. What we have seen about the ambiguities of the very concept of possibility in Kant amply explains his hesitation, however. Once again, the Principle of Plenitude performs well its methodological function as a sensitive intellectual barometer.

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