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Sense, Finitude and Time: Kant, Heidegger, Wittgenstein

(Chapter 6 of Draft MS: *The Logic of Being: Heidegger, Truth, and Time*)

1.

In *Being and Time*, Heidegger famously argues that Dasein, or the kind of being that we ourselves are, is essentially structured by the possibility that is most ultimate and unavoidable for us, namely that of our death. As our "ownmost, non-relational possibility… not to be outstripped," (1927: 264) the possibility and "indefinite" certainty of death includes and encompasses all other possibilities for the individual Dasein, including the possibility of becoming certain, Heidegger says, of the *totality* of one's own potentiality-for-being (1927: 266). In particular, in "anticipation" or "authentic being-toward-death," Dasein achieves an individualizing freedom in which it comes "face to face," in the attunement or mood of anxiety, with the "possible impossibility" of its own existence. It thereby can liberate itself from an ordinary or "inauthentic" mode of fleeing into a "lostness" and neglect wherein possibilities are pre-determined by the claims of the "they" [Das Man] which have always already decided the appropriate "tasks, rules and standards" for one's actions and motivations (1927: 268).

By contrast with the "inauthentic" temporality determined as an infinitely continuing sequence of homogenous "now" moments, the finitude of Dasein in relation to death constitutes a "primordial" and "authentic" temporality that is primarily directed toward the future in its creation and engagement of possibilities. (1927: 330-331). This primacy of the futural relation to one's own possibilities, as well as the "Being-already in…" which characterizes authentic Dasein's present and the "being-already-in" in which Dasein has the possibility of "taking over" its own "having been" (325-326) together articulate the unified structure of temporality as "ecstatic," or as "*the primordial 'outside-of-itself' in and for itself*." (329). Though temporality is thus separated into the three interlinked "ecstases" of the past, present and future, the future in the sense of the "anticipatory resoluteness" of Dasein in relation to death retains a priority which allows it to unify the three (339). This unity is not the unity of an extant thing or an entity which would thus "emerge from itself"; rather, its unity is that of a "process of temporalizing in the unity of the ecstases" (329). Through this temporalization of temporality, it is possible that there arises as a secondary structure the "'time' which is accessible to the ordinary understanding" and in which the basic ecstatic character of primordial time is "levelled off," namely that of the "pure sequence of 'nows', without beginning and without end." (329). On this conception, the 'infinite' time about which it is possible to say (for instance) "time goes on" or "time keeps passing away" is "derived" [abeleitete] from the more basic structure of essentially finite "primordial" time insofar as it "temporalizes itself" in a certain way (331). In particular, through the possibility of counting and measuring time, which is itself grounded more basically in Dasein's primordial temporality, it becomes possible that a kind of time that is understood as "public" on the basis of the countable availability of

the "now" gains the character of a "world-time" which is knowable as the time "'wherein' entities within-the-world are encountered." (417-419). Nevertheless, because of its underlying "ecstatico-horizonal" constitution, this world-time basically retains "the same transcendence" as that of the "world" itself; as transcendent in this way, it is both " 'more Objective' than any possible Object" and "'more subjective' than any possible subject" (419). As, in this way, the "earlier" condition of possibility for anything physical as well as psychical, this world time is itself neither objective nor subjective since it constitutes this "earlier" itself. (419). Heidegger thus does not exclude the possibility of an alternative development of world-time, one which would not simply result in its "leveling" into public forms but would nevertheless retain its capacity to condition "objective" as well as "subjective" processes; indeed, Heidegger sees a basic problem here, one also connected with the problem of *truth* with which Division 1 of Being and Time concludes.[1] Heidegger also does not deny that any conception of time must acknowledge its "going on" and containing an unlimited number of things in the future despite my own "no-longer existing" (des Nicthmehrdaseins meiner selbst) (330); in response to the questions raised by these phenomena, he says simply that they cannot imply objections to the idea of the finitude of *primordial* temporality because they do not "treat" it at all. On the other hand, it is characteristic of the "ordinary" way of interpreting time that it characterizes this time as the publically available, "levelled-off" sequence of present "nows" that thereby, Heidegger says, renders unrecognizable its own actual "origin in the temporality of the individual Dasein." (425).

As thus ecstatco-horizonally grounded, temporality thus remains based in the primarily futural structure of Dasein's projection upon possibilities, wherein it is linked essentially to the basic structure underlying the intelligibility and meaningfulness of entities, or what Heidegger calls their *sense* (1927: 151). In the discovery or disclosure of entities in their possibilities by Dasein, they are able to be understood in such a way that their *way of being* is itself also simultaneously understood; there is thus an essential link between the determinate sense of beings and the overarching structure of projection whereby "something is intelligible as something" to begin with. But because sense is not ultimately a property of entities, but rather an existential structure of Dasein, this possibility also remains linked to Dasein's own constitutive structure of "being in the world." In particular, as the disclosedness of the underlying structure of the "there" or "da," understanding always relates to the *whole* of being-in-the-world (1927: 152), sketching out in advance the specific structure and relations that entities within the world are taken to have. In this way, all inquiry about the "ground" or basis of entities remains a questioning about sense, Heidegger suggests, and is ultimately rooted in the question whose articulation is the central task of *Being and Time* as a whole, the question of the meaning or sense of Being itself. This question, both with respect to its development as a question of sense in Division 1 and as a question of time in Division II, remains determined in a basic way by what Heidegger sees as the essential finitude of Dasein in relation to its "ownmost" possibility of death.

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[1] "Has ['time'] then any 'Being'? And if not, is it then a mere phantom, or is it something that is 'more being' [seiender] than any possible entity? Any investigation which goes further in the direction of questions such as these, will come up against the same 'boundary' which has already set itself up to our provisional discussion of the connection between truth and Being. In whatever way these questions may be answered in what follows – or in whatever way they may first of all get primordially formulated – we must first understand that temporality, as ecstatico-horizonal, temporalizes something like *world*-time, which constitutes a within-time-ness of the ready-to-hand and the present-at-hand." (419-420) (transl. slightly modified).

In *Kant and the Problem of Metaphysics*, published in 1929 but drawing centrally on the interpretation of Kant already worked out in the "Logic: The Question of Truth" lecture course of 1925/26, Heidegger specifies, through a detailed and radical reading of Kant, a partially related but also somewhat different way in which human finitude can be seen as underlying the structure of sense. On Heidegger's reading, Kant's program in laying out the grounding for any possible metaphysics in the *Critique of Pure Reason* depends, at its core, on a conception of human pure reason as essentially finite (1929: 28). This finitude of reason, according to Heidegger, should not be understood as simply a matter of deficiencies or lacks in the human capacity for accurate knowledge; rather, it is primarily an aspect of the "essential structure" of human knowledge itself. (p. 28). In particular, for Kant, human knowledge primarily takes the form of *intuition*, the specific form of representation whereby knowledge is related directly to an individual object. The essential finitude of human knowledge, thus understood, is illustrated by the contrast Kant draws between this knowledge and the possible knowledge of a divine or absolute intellect, which would be capable, according to Kant, of an intellectual kind of intuition that would actually *create* the intuited object. By contrast with this, for Kant as Heidegger reads him, although human knowledge is always a synthesis of intuition and conceptual understanding, it is characteristically finite in that it stands under the necessity of *representing* objects which it cannot produce by itself and which therefore must be given to it from elsewhere (1929: 31-32). For a divine intellect which did not stand under this necessity, it would also not be necessary to think (but only to intuit) in order to have all of its objects adequately; but since human cognition is thus constrained, even in thought, its characteristic finitude does not only apply to the "faculty" of intuition but also to conceptual thinking by means of what Kant characterizes as the understanding and indeed, in a more basic sense, to the unity of the two. (31)

The basis of this unity for Kant becomes more clearly visible, according to Heidegger, in considering the way in which this conception of essential finitude determines the Kantian idea of the *transcendental*. In particular, Kant characterizes objects of knowledge in a twofold sense, both as appearances, insofar as they are knowable to us, but also as what the appearances are appearances *of*, i.e. unknowable things in themselves. Since appearances, by contrast with things in themselves, stand under the specific limitative conditions of the forms of intuition, their nature as appearances is determined by the essential finitude of human intuition. (37-39) This is again to be contrasted with the infinite knowing that would be capable of knowing its objects as things in themselves. This contrast is, Heidegger suggests, the actual meaning of Kant's claim that things in themselves lie "behind" appearances: the point here is not that there are two types of possible objects of finite intuition, one lying behind the other, but rather that knowledge of beings *as* they are in themselves is essentially closed to human beings as essentially finite knowers (38).

For the same reason, according to Heidegger, it is necessary that human knowledge always involves an element of receptivity and that this element be *sensory* in that it operates through organs of sensation that allow the essentially finite Dasein to be affected by particular external objects. (32) Nevertheless, genuine knowledge is not simply knowledge that immediately represents [*unmittelbar…vorstellt*] an object in itself; rather it must also be able to make this object "as revealed accessible with respect to both what and how it is for everyone at all times" [*offenbares fur jedermann und jederzeit in dem, was*

und wie es ist, zuganglich machen konnen]. In this sense, "the intuited is only a known being if everyone can make it understandable to oneself and to others and can thereby communicate it." ["*Das Angeschaute ist nur erkanntes Seiendes, wenn jedermann es sich und anderen verstandlich machen und dadurch mitteilen kann*." (p. 33)] Kant understands this requirement as fulfilled insofar as knowledge involves not only intuition but "representation in concepts" (*das Vorstellen in Begriffen*). This determinative representing of something is, however, itself an "assertion of something about something" or a predication. (*Bestimmendes Verstellen aber ist in sich ein Aussagen von etwas uber etwas (Pradikation*). The basis of this possibility of determinative representing, however, is itself the "faculty of judging" [*Vermögen zu urteilen*], or what Kant terms the "understanding". In the actual act of determinative judgment, the faculties of intuition and understanding are united in a synthesis and thereby "mediately" related to the determined object. This synthesis "accomplishes" the making-evident [*Offenbarmachen*] of this particular entity as an object. Through this particular kind of synthesis and its particular structure, the object itself becomes available or actually available "in truth".[2]

This raises the question of the nature of the nature of the specific kind of synthesis between intuition and understanding that must occur for judgment in general to be possible. The problem of the basis of this synthesis is in fact, Heidegger suggests, the deepest problem of the whole project of the *Critique of Pure Reason* in its attempt to lay a critical ground for any possible systematic metaphysics. His attempt to solve it leads Kant to envision a mediating "common root" in the soul for both intuition and thinking; Kant characterizes this "common root" as a "power of pure imagination" which operates as a "blind but indispensable function of the soul."[3] This power is actually at the basis, Kant says, of all synthesis whatsoever and thus acts as the general function underlying all possible representation (Kant 1787: A 78/B103), including what Kant describes in the Transcendental Deduction as the necessary condition for all possible objective representation, the transcendental unity of apperception, has the form of a standing capability to unify intuition and the understanding. But this capability itself remains dependent upon the deeper "productive" synthesis of the imagination:

> The representing of unity, as pure thinking, necessarily has the character of the 'I think.' The pure concept, as consciousness of unity in general, is necessarily pure self-consciousness. This pure consciousness of unity is not just occasionally and factically carried out, but rather it must always be possible. It is essentially an 'I am able.'… Only as the constant, free "I can" does the "I think" have the power to allow the Being-in-opposition of the unity to stand against itself [*vermag das 'ich denke' sich das Dawider der Einheit entgegenstehen zu lassen*], if in fact linking

[2] Heidegger writes: "Durch solche Einigung (Synthesis) bezieht sich das Denken mittelbar auf den Gegenstand. Dieser wird in der Einheit einer dekenden Anschauung offenbar (wahr)." As we shall see, Heidegger's hesitation between "offenbar" and "wahr" points to an inherent structural question, which Heidegger evidently sees as at least implicit in the structure of Kant's theory, about the specific relationship between the cognitive relationship to objects and the truth of judgment.

[3] Die Synthesis überhaupt ist, wie wir künftig sehen werden, die bloβe Wirkung der Einbildungskraft, einer blinden, obgleich unentbehrlichen Funktion der Seele, ohne die wir überall gar keine Erkenntis haben würden, der wir uns aber selten nur einmal bewuβt sind." (A78/B103).

> remains possible only with reference to an essentially free comporting. The pure understanding, in its original holding of unity before itself, acts as Transcendental Apperception.
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> Now what is represented in the unity which is held before itself in this way [*der durch sie vorgehaltenen Einheit*]? Perhaps it is simultaneously the universe of all beings [*das All des Seienden*], in the sense of the *totum simul*, which the *intuitus originarius* intuits? But this pure thinking is certainly finite, and as such it cannot from itself, through its representing, set the being in opposition to itself, not to mention simultaneously setting everything in its unity. The represented unity first awaits the encountered being; and as such awaiting, it makes possible the encountering of objects which show themselves with one another. As non-ontic, this unity bears [*trägt als nicht-ontische*] the essential tendency of a unifying of that which is not yet unified in itself. That is why, following the clarification of Transcendental Apperception, Kant says of the unity which is represented in it: it "presupposes a synthesis however, or includes one." (p. 77; transl. slightly modified)

This deeper, presupposed synthesis is the "pure synthesis of the imagination," which is, according to Kant, the "ground of the possibility of all knowledge" as its necessary *a priori* condition (A 118). According to Heidegger, though, this conception of the productive power of the imagination as the basic *a priori* condition for the possibility of any synthetic untification itself presupposes the givenness to intuition of *time.* As the unitary form of both inner and outer sense, time in its givenness as a form of ordering also conditions, according to Kant, all "modifications of the mind" (A 99 and Heidegger, p. 79). In particular, as Kant explains in the "Schematism" chapter, the pure power of the imagination is the capacity to link intuition and the understanding by forming an image or schema which is the image of a horizon within which particular objects can be encountered and experienced. (p. 86) As such a "forming" of the horizon which also gives rise to the possibility of its being seen in a unified "look," the schematism also makes visible, according to Heidegger, "the ground for the possibility of transcendence"; but since "transcendence is, as it were, finitude itself" this is also a "making-sensible" of the basic structure by means of which a finite creature can intuit anything at all (p.87).

According to Kant, the schema for a concept is, in particular, a "representation of a universal procedure of imagination in providing an image for a concept."[4] Such a representation is necessary in general in order to account for the possible subsumption of an object under a concept, and is particularly so when the object of an empirical intuition subsumed under a pure concept of the understanding. For pure concepts or categories such as that of causality, unlike empirical concepts such as that of a *plate* or pure geometric concepts like that of a *circle*, are in no obvious way "homogenous" to what is subsumed under them. Whereas, for example, the roundness that is thought in the concept of the circle can be intuited in an actual plate, what is thought in the categories cannot be sensibly intuited at all. It is therefore necessary to explain how concepts in general, and pure concepts in particular, can apply to appearances. (A 137/B 176) Kant's answer to this question is the invocation of the "transcendental schema" as a "third thing," or "mediating representation," between the category and the appearance which is homogenous to both; such a "third thing" will be simultaneously intellectual and sensible. (A

[4] "Dise Vorstellung nun, von einem allgemeinen Verfahren der Einbildungskraft, einem Begriff sein Bild zu verschaffen, nenne ich das Schema zu diesem Begriffe" (Heidegger, p. 92; Kant, A 140/B 179-180).

138/B 177) Thus understood, the schema is the "formal and pure condition of sensibility to which the employment of [a] concept of understanding is restricted;" at the same time, the schema of a particular concept is the "representation of a universal procedure of imagination in providing an image for [the] concept" and thus allowing the concept, which is itself a rule, to be applied to its various instances. For instance, in the case in which I think a "number in general" for which I do not provide a direct image, my thought is not itself an image or directly related to one but is rather the "representation of a method whereby a multiplicity [i.e., one having that number]…may be represented in an image in conformity with" the concept in question (A 140/B 179-180). In the case of empirical or mathematical concepts, the schema thus operates as "a rule for the determination of our intuition" in accordance with which an image is provided for a concept. (A 141/B 180) By contrast with this, in the case of *pure* concepts or categories, there is and can be no such image or (accordingly) any "method" for providing one; here, the schema is thus simply "the pure synthesis, determined by a rule of that unity, in accordance with concepts, to which the category gives expression."[5] (A 141-142/B 180-181). In either case, however, the schema is, as Heidegger glosses it, a "representing of the rule" that the concept is which in a certain way "bring[s] the rule into the sphere of possible intuitibility". (pp. 93-94).

In this way, the schemata allow for the possibility of the basic connection between the intuition and the understanding by presenting or representing concepts in such a way that they become intuitable; such presentation itself manifests the basic structure of transcendence which consists in the finitude whereby human thought and intuition are jointly conditioned by the necessity of representing something exterior to themselves. But the schemata of pure concepts are in fact themselves nothing other than pure, *a priori* and transcendental determinations of time. Heidegger suggests, in particular, that the schema of the category of *substance* is, for Kant, the most basic "pure image of time" [*Ihr Schema muß die Vorstellung des Zugrundeliegens sein, sofern es sich im reinen Bilde der Zeit darstellt*.][6]

According to Kant, specifically: "The schema of substance is the permanence of the real in time, that is, the representation of the real as a substrate of empirical determination of time in general, and so as abiding while all else changes." (A 143/B183).[7] As Heidegger interprets it, this is the image of a constantly successive sequence of "nows" which is also *permanent* and eternally *persisting* in the sense of never running out. In this "pure sequence of nows" that "now time" [Jetztfolge] represents, time is always "now" [Nun ist die Zeit als reine Jetztfolge jederzeit jetzt.] (101) As the constant substrate of this constantly "flowing" sequence, time as schematized in the schema of substance is that which endures, giving "the pure look of something like lasting in general" (101). In this way, through the schematism

[5] A 140-142/B 18-181.

[6] This despite the fact that, as Heidegger recognizes (p. 97) Kant says very clearly, a page or two earlier, that the schemata of *pure* concepts of the understanding, such as substance, "can never be brought into any image whatsoever:" "Dagegen ist das Schema eines reinen Verstandsbegriffs etwas, was in gar kein Bild gebracht warden kann, sondern ist nur die reine Synthesis gemäβ einer Regel der Einheit nach Begriffen überhaupt, der die Kategorie ausdrückt, und ist ein transzendentales Produkt der Einbildungskraft, welches die Bestimmung des inneren Sinnes uberhaupt nach Bedingungen seiner Form (der Zeit) in Ansehung aller Vorstellungen betrifft, sofern diese der Einheit der Apperzeption gemäβ *a priori* in einem Begriff zussamenhängen sollen." (A 142/B 181) (For some discussion of the issue, see section IV below).

[7] [Das Schema der Substanz ist die Beharrlichkeit des Realen in der Zeit, d. i. die Vorstellung desselben als eines Substratum der empirischen Zeitbestimmung uberhaupt, welches also bleibt, indem alles andre wechselt.]

that thus renders the "pure image of persistence" visible, "a being which as such is unalterable in the change can show itself for experience." [*so daß…für die Erfahrung ein im Wechsel unveränderliches Seiendes also solches zeigen kann*]. (102). This schematization of time as such thus functions, according to Heidegger, as "the ground for the inner possibility of ontological knowledge." It does so by giving to experience a "preliminary enclosedness to the horizon of transcendence." (102) In this giving of a "unique, pure, universal image" of time, it thus gives an image to the "single and pure ontological horizon" which is the condition for the possibility that any "begin given within it can have this or that particular, revealed, indeed ontic horizon." (102). As such a "pure self-giving" it makes visible to a finite creature the very structure of its own finite transcendence.

Given the structure of this finite transcendence, it is necessary for a subject thus constituted that it can be affected by something outside itself, but also in such a way that it "bears and makes possible in general the pure concept (the understanding) that stands in essential service to intuition" (p. 172). This possibility of affection from without in such a way as to facilitate the understanding characterizes what Kant treats as the temporal form of both inner and outer sense. Because it is a general possibility, this possibility of being affected from without but in such a way as to facilitate the concept must also characterize, according to Kant, the "formal conditions" of the way in which we represent all temporal relations of succession, coexistence, and endurance. For Kant, however, these "formal conditions," being purely relational, do not and cannot represent any thing in itself but must instead represent things only insofar as they are "posited in the mind". (B 67) This is what leads Kant to consider the basic temporal form of inner sense as "nothing but the mode in which the mind is affected through its own activity (namely, through this positing of its representation" (B 67-68) or, as Heidegger puts it, as the mind's "pure self-affection". As Kant further suggests, this self-affection itself further conditions the possibility of the apperceptive "consciousness of self," whereby the self appears to itself "as it is affected by itself." Thus the ultimate significance of human finitude for Kant, according to Heidegger, lies not simply in the fact that the finite intellect is necessarily affected from without, in sensation, by something other than it, but indeed that this possibility of affection from without is itself dependent upon a pure *self*-affection which, in yielding the form of time, pre-constitutes the apperceptive unity of the self to begin with.[8]

But although Kant thus sees the way in which the givenness of time as a kind of universal self-givenness conditions all possibility of representation and thus of objects of experience, he nevertheless understands this givenness itself in a way that is ultimately paradoxical or contradictory. This is because he understands this givenness, in ambiguous fashion, as both the result of an active and "productive" capacity of synthesis and as shaped by a formal condition with respect to which it is passive and receptive. As the agency ultimately capable of uniting the faculties of the intuition and the understanding, the transcendental power of imagination must unite receptivity and spontaneity in an

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"In pure taking-in-stride [*im reinen Hinnehmen*] the inner affection must come forth from out of the pure self [*aus dem reinen Selbst*], i.e., it must be formed in the essence of selfhood [*Wesen der Selbstheit*] as such, and therefore it must constitute [*ausmachen*] this [*diese selbst*] in the first place. Pure self-affection provides the transcendental, primal structure of the finite self as such. Thus it is absolutely not the case that a mind exists among others which, for it, are also something related to it, and that it practices self-positing. Rather this 'from-out-of-itself-toward… and back-to-itself' [*'Von-sich-aus-hin-zu … und Zurück-auf-sich'*] first constitutes the mental character of the mind as a finite self." (p. 173).

original and non-composite way. (p. 140) Accordingly, since the transcendental imagination is, according to Heidegger, the ultimate basis for the givenness of time, time itself must be given, in a paradoxical way, both receptively "from without" and spontaneously "from within". This characteristic and paradoxical original duality of spontaneity and receptivity is also characteristic, according to Heidegger, of Kant's practical philosophy of the person, insofar as within it reason is grounded in respect for a law which I give myself. (p. 143-146.) In this respect, I submit myself to the law; but in so doing, I also submit myself to myself as pure reason. In this dual structure of self-submission, Heidegger again sees the paradoxical originally receptive/spontaneous structure of the power of imagination at the basis of the possibility of action:

> The self-submitting, immediate, surrender to [*sich unterwerfende unmittelbare Hingabe an*]… is pure receptivity; the free, self-affecting of the law [*freie Sich-vorgeben des Gestzes*], however, is pure spontaneity. In themselves, both are originally one. And again, only this origin of practical reason in the transcendental power of the imagination allows us to understand the extent to which, in respect, the law as much as the acting self is not to be apprehended objectively. Rather, both are manifest precisely in a more original, unobjective, and unthematic way as duty and action, and they form [*bilden*] the unreflected, acting Being of the self [*Selbst-sein*]. (p. 146).

In this original receptive/spontaneous structure of pure self-affection is thus, according to Heidegger, to be found the ultimate basis for the constitution of the finite self to begin with. Indeed, insofar as both operate as unchanging and perduring conditions for all possible representation, Heidegger suggests, time and the "I think" of transcendental operation are, for Kant, ultimately the same. (p. 173). But if the "I" of the "I think" gives itself time through the original structure of a pure self-affection that is irreducibly both spontaneous and receptive, this means that it is also first constituted by this very giving. It thereby becomes possible, according to Heidegger, to challenge Kant's official view, according to which neither the "I" nor time itself are in fact "in time". Indeed, without simply denying this official view, it here becomes possible to ask whether Kant's attribution of permanence to both might in fact point to a deeper way in which both are temporal, indeed to the possibility that the "I", far from being simply atemporal, is "so 'temporal' that it is time itself, and that only becomes possible, according to its ownmost essence, as time itself" (p. 174-175). Indeed, if the originally reflexive receptive/spontaneous structure of self-affection is indeed the unified basis for the "I" of apperception and the self-givenness of time, it is necessary to consider this structure to be the "guide" for any possible "decision" regarding the temporality or timelessness of the "I". This "guide" itself points, according to Heidegger, to the renewed possibility of an ontologically clarified interpretation of the basis of the "ordinary" concept of time as a sequence of nows in the structure of the original self-affection that is constitutive of the finite self:

> Concerning the timelessness and eternality of the I, not only is nothing decided, but it has not subsequently been questioned within the transcendental problematic in general. The I, however, is "fixed and perdurung" in this transcendental sense as long as it is temporal, i.e. [as long as it is] as finite self.
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> Now, if these same predicates are attributed to time, that does not simply mean: time is not 'in time.' On the contrary, if time as pure self-affection allows the pure succession of the sequence of nows to spring forth for the first time, then this, which springs forth from it and which, so to speak, is caught sight of [*erblickt wird*] for itself alone in the customary 'time-counting,'

> ["*Zeitrechnung*"] essentially cannot be that which is sufficient to determine the full essence of time.
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> Accordingly, if we are to come to a decision regarding the "temporality", or the timelessness, of the I, then the original essence of time as self-affection must be taken as our guide [*Leitfaden*]. (p. 176; transl. slightly modified).

If the "I" of transcendental apperception which forms the basic unity of thought must be thus be placed in an essential relation to the pure self-affection that is also the basic form of time, it is also necessary, according to Heidegger, to rethink in this way the temporal status of the constitutive forms and rules of pure thought itself. This is so, according to Heidegger, even with respect to what Kant sees as the "highest principle of all analytical judgments", namely the principle of non-contradiction. As Heidegger notes (p. 167) in introducing the principle, just after the schematism chapter, as the basic principle underlying all analytic knowledge and a *sine qua non* of all knowledge whatsoever (whether analytic or synthetic), Kant emphasizes that the principle, as a "merely logical one", must not be understood as limiting its claims to those involving relationships of time. Thus, it is necessary, according to Kant, to replace what he cites as the traditional formulation of the principle, namely "It is impossible that something should *at one and the same time* both be and not be" with an alternative formulation making no mention of time at all. Whereas a thing (A) which *is some way* (B) may very well be not-B at a later time, to build the determination of time into the principle of non-contradiction itself violates what Kant sees as the basic atemporality that should rightly characterize all genuine principles. (A 152-153/B 191-193) Accordingly, he suggests replacing it with a version that does not treat the opposed predicates (B and not-B) as separable from the thing itself (A), but rather as involved in the very concept of the thing. If, for example, one says, in accordance with the principle that a man who is unlearned is not learned, it is necessary to add the condition "at the same time"; but if one says simply that no unlearned man is learned, the claim is immediately analytical with no reference to time at all. The later formulation, rather than the former, actually shows, according to Kant, the real character of the principle of noncontradiction as the highest and most general condition for all thought. (A 153/B 192-193).

If, however, as Heidegger suggests, the basic structure of the "I think" of apperception must be reconsidered in its relationship to the underlying structure of self-affection at the basis of time, then even Kant's attempt to interpret the principle of noncontradiction as extra-temporal in this sense must also be rethought on this basis. Kant, remaining "oriented toward the nonoriginal essence of time" which does not yet have in view the original unified basis of time and thought in self-affection, must deny that the principle of noncontradiction has a temporal character (p. 177). He can legitimately argue, in fact, that the inclusion of the reference to time would mean that the principle was limited in its scope to "empirical, accessible beings within time", whereas as a logical principle governing *all* thought – analytic as well as synthetic -- it should not be so limited, and therefore that it is in itself not subject to any temporal form or determination (p. 176). More generally, given that Kant considers temporality only in terms of the question of what is "within" or "outside" time in the non-original, secondary sense, it would indeed be "illogical", as Heidegger agrees, for him to understand the "I" in general as "within time"; for – given that time is also the general form of inner as well as outer sense, for Kant -- to do so would be to "determine what time itself is originally with the help of a product derived from it." (p. 177). Kant thus denies "with full justification" the attribution of any kind of "temporal form" to the I of

apperception and to pure reason itself, a denial which he then with equal justice extends to the deletion of the "at the same time" in the initial formulation of the principle of noncontradiction.

The issue is, as Heidegger notes, essentially connected to the question of the basis of any possible recognition of an object; for as Kant suggests, whereas the principle on its first (uncorrected) formulation apparently presupposes the possibility of re-identifying a given object (A) over time as the same despite its varying (and even contradictory properties), the second, corrected version of the principle, by determining objects only in terms of their "concept", does not. In the first edition version of the "Transcendental Deduction,"[9] Kant considers, in addition to the mode of synthesis of "apprehension in intuition" and that of "reproduction in imagination," a third and more basic synthesis of "recognition" which grounds all concepts of objects in general. Although the synthesis of recognition is explicitly linked to the transcendental unity of apperception, its own characteristic relation to temporality remains, as Heidegger notes, obscure (p. 167). Insofar as it is possible to maintain that the "I think" of transcendental apperception remains simply outside time, it is also possible for Kant to find in it the underlying principle of unity and persistence that allows for the principle of noncontradiction to appear capable of applying to all objects as such, insofar as they are thinkable at all, without bringing them into any specific relation to time.

Within the scope of Kant's assumption of the secondary, derived conception which places both the "I" and its thought outside the realm of the "within-time", the correction which consists in deleting the "at the same time" is thus justified. Nevertheless, by bringing into view the more original link between time and the basis of thought in the basic structure of self-affection, it is possible, Heidegger suggests, to interpret this "at the same time" in a wholly different way. Here, in particular, though it is no longer simply a matter of the co-presence of beings within time, it may nevertheless be seen as involved in the actually *temporal* character of thought and the self in a more basic and original way:

> And yet – just as certainly as it is that the "at the same time" ["*zugleich*"] is a determination of time, so little does it have to mean the "within-time-ness" of beings ["*Innerzeitigkeit" von Seiendem*]. Rather, the "at the same time" expresses that temporal character which, as preliminary "recognition" ("*pre-paration*") ["*Vor-bildung*"], originally belongs to all identification as such. However, this lies solidly at the ground of both the possibility and the impossibility of contradiction. (p. 177).

Thought in this way, the possibility of recognition at the basis of any possible judgment of identity does not depend on the ontic co-presence of beings in the "at the same time" of a present moment; accordingly, the formulation of the principle of noncontradiction does not have to exclude it. Rather, it points back to the "belonging together" of thought and intuition, or of spontaneity and receptivity, in the "unity of the same essence," one which is predicated on the original constitutive structure of temporal self-affection that is also the original form of the givenness of time (p. 177). It is this structure, brought out and viewed as the unified root of time and the "I" of transcendental apperception that conditions all thought, that thus originally originally and basically "makes possible the finitude of human

[9] A103-110

subjectivity in its wholeness" by showing that the self, while not simply "within time" is, "in its innermost essence…originally time itself." (p. 177)

In the concluding pages of the Kant book, this leads Heidegger to outline the further project of an ontological analysis of finitude which would investigate the meaning of Being as such in its constitutive relationship to the finitude of human beings. (p. 200) This is, Heidegger says, none other than the question of what "Being" itself means [*bedeutet*] given that it is (as Heidegger says) understood in advance in *every* question. (p. 201). In that this pre-understanding is a constant feature of Dasein wherein its own structure becomes evident to it as a kind of "irruption into the totality of beings, so that … the being in itself first becomes manifest, i.e. as being," it also points to the essential structure of Dasein through which it *allows* beings to be. But this, as we have seen through the analysis of Kant, nothing other than the essential finitude of Dasein, which determines the way in which it encounters beings in general determined as transcendent or "exterior" to it. (p. 206). In this specific way, the analytic of finitude points directly to the question of how "transcendence carries out the projection of the Being of the being" always already in advance. But this projection is, as we have seen, nothing other than the structure of the sense of beings, whereby they are first made capable of intelligibility and meaningfulness to us. It is in this analysis of finitude as the basis of sense, Heidegger suggests in closing, that we must accordingly situate the question of the possibility of truth in general, and thereby also to a "basic need" in our everyday existence to understand something like Being, as well as the positive possibility of actually achieving this understanding by means of an explicit interpretation of this existence. The analysis, in bringing into view for the first time the structure of Da-sein itself as the "transcendental primal structure" of temporality is thus also, simultaneously, a "fundamental ontology" that opens up the meaning of Being along the renewed and radicalized guideline of time (p. 218).

2.

The analysis of finitude that Heidegger discovers in Kant thus sees the possibility of sense as resting in the capacity of an essentially finite intellect to project possibilities of meaning into a potentially infinite domain of objects and circumstances, the world as such. Neither Heidegger nor Kant understands this possibility primarily in terms of language, or understands sense, thus conceived, as primarily a property of linguistic signs. Nevertheless, as I shall argue in this section, a structurally related conception of human finitude and its relationship to sense is formulated early on in the development of the tradition of analytic philosophy in explicitly linguistic terms, and becomes decisive in producing many of its most characteristic projects and results. On this conception, which I shall call the *structural-recursive* conception of sense, linguistic meaning arises from the rule-governed application of signs within indefinitely varying contexts of use. The underlying basis of this unlimited possibility of application in the individual language user is her knowledge of the systematic structure of a natural language, and this knowledge must be capable of being learned in a finite amount of time and symbolically represented in a finite amount of space. Here, the (generally implicit or tacit) knowledge of a language is thus related to its actual use as competence is related to performance, and the consideration that such competence must be attainable by beings that are spatially and temporally finite plays an important role in constraining the possible form and structure of theories of meaning.

The structural-recursive picture of meaning characteristically applies to the consideration of natural languages the lessons learned through the study of formalism and formalized languages. One principal conceptual and historical source for it can be located in David Hilbert's conception of formal, axiomatic systems for proof in mathematics. This conception arises in part in response to concerns about the role of the infinite in mathematics, concerns that were given special urgency by Georg Cantor's set-theoretical development of the mathematics of the transfinite. How is it possible for an essentially finite being to have rigorous, demonstrable mathematical knowledge about the existence and nature of actually infinite totalities? In the 1925 article "On the Infinite" (Hilbert 1925), Hilbert emphasized that, while mathematicians should steadfastly refuse to be driven from "the paradise that Cantor created for us" (1925: 376) by skeptical doubts about the accessibility of the actual-infinite or concerns arising from set-theoretical paradoxes, it is still necessary to account for the possibility of knowledge about the infinite by explaining how it is possible on the basis of *finite* processes of reasoning. The key to the conception that Hilbert proposes is the insight that the possibility of performing logical inferences at all depends on there being "something … already given to our faculty of representation [in der Vorstellung];" in particular, "certain extralogical concrete objects" that are "intuitively present as immediate experience prior to all thought" and their properties and possibilities of combination must be completely surveyable and "immediately given intuitively."(1925: 376). For the formalist, these extralogical objects are, however, nothing other than the concrete signs themselves with which proof and inference are conducted.

With this conception, mathematics becomes "an inventory of formulas that are formed from mathematical and logical signs and follow each other according to definite rules;" (p. 381) in particular, inference about the infinite is possible insofar as, and only in that, it can be carried out by means of finitely long proofs in a finitely specifiable axiomatic system. Mathematical inference is thus divided into two parts: a "finitary" and "contentful" portion dealing only with finite quantities and relations, and

an "ideal" part capable of handling the infinite and transfinite which nevertheless depends wholly on the completely finitary relationships of signs within a particular axiomatic formal system. The "ideal" extension into the infinite is always justified, as long as it can be proven that it does not lead to any possible contradiction (1925: 383), and Hilbert further speculates that it may be possible to find in the formalist project a methodical basis for the confidence that every mathematical problem can, in principle, be solved (p. 384). In this way, Hilbert's formalist conception aims to provide a rigorous basis for a confidence in the methodical and procedural solvability of all mathematical problems on the principle that "the right to operate with the infinite can be secured only by means of the finite;" in particular the intuitive representability of finite signs and rules is held to be the necessary and sufficient basis for the solubility of problems concerning the finite and the infinite alike.1925: 384).

This conception of the methodical basis of mathematical reasoning led Hilbert to propose what came to be called the *decision* problem, the problem of whether there exists an *effective procedure* for answering every well-defined mathematical "yes or no" question. The question was answered, in the negative, independently by Alonzo Church and Alan Turing in 1936 and 1937. Just as significant as the negative answer, however, was the formalization of the idea of an effective procedure which was necessary in order to formulate the problem with sufficient clarity to give it a determinate answer. Church and Turing independently provided alternative formalizations of the notions of effectivity which turned out to be exactly equivalent; but Turing's formulation, in terms of the structure of automatic computing machines (what later came to be called "Turing machines") would prove decisive in that it also provided the first general description of the abstract architecture shared by all programmable digital computers.

In formulating this architecture and the rigorous concept of computability defined in terms of it in his 1936 paper "On Computable Numbers, with an Application to the Entscheidungsproblem," Turing also provides rigorous criteria for formally identifying those (real) numbers, and solutions to problems, which would naturally be regarded as computable by means of a finite procedure in an intuitive sense. Turing's definition of computability in terms of machines thus arguably formalizes the intuitive notion of effective computability by means of a completely specified procedure, and so captures the general form of all procedures that are open to essentially finite reasoners given finite time. (That it does in fact capture this intuitive notion accurately and completely is the content of what is sometimes called the "Church-Turing thesis").[10] In arguing for the specific architecture of the computing machines that formalize the notion of computability, Turing in fact appeals at several points to considerations of the essential finitude of humanly achievable reasoning. To begin with, "human memory is necessarily limited" (p. 59); it is thus impossible to suppose that a computational process requires of its agent that the agent be able at any point to hold in memory infinitely many pieces of information at once if it is to be effective in Turing's sense. Similarly, it is necessary to assume, for reasons similar to Hilbert's, that the agent or machine has the ability to survey only finitely many types of signs, and that it itself must be, at any time, in one of only finitely many possible internal states (pp. 75-76). Given these restrictions, it is possible to suppose that what the agent will do at any stage of the calculation is wholly determined by the combination of its determinate internal state and the symbols it is directly observing at the moment,

[10] The claim that it does in fact capture this intuitive notion accurately and completely is what is sometimes called the "Church-Turing thesis".

and it is thus indifferent whether this agent is understood as being an actual human (Turing actually uses the term "computer" in its older sense to refer to a human whose job is to calculate) or a wholly mechanical system. Moreover, it is similarly always possible for the computer (whether human or mechanical) to break off the computation at any stage and summarize the current state of the computation in a finite symbolic description so that it can be resumed later.

But the most important restriction on Turing's rigorous notion of effective computability arises from considerations of essential finitude. For example, we cannot suppose, he argues, that an actual process of human reasoning can ever involve the surveying of infinitely many signs, or that there can be infinitely many discrete possible mental states. But the most important restriction on the notion of effective computability is the consideration that a procedure for the determination of the answer to a "yes or no" mathematical question must, if it is to be considered effective, always be able to reach the correct answer in a *finite* number of steps. In particular, if it can be shown, for a specific problem of this form, that there is *no* possible finitely specifiable procedure which will always reach a correct answer in finitely many steps, then the problem is said to be undecidable. The major consequence of Turing's argument in the 1936 paper is that there is in fact *no* effective procedure, in this sense, for deciding whether or not a particular sentence follows as a theorem from the axioms of a well-defined formal system. Applied to the formal systems capable of capturing the basic operations of arithmetic and thus intended to axiomatize mathematical reasoning in Hilbert's sense, this yields a negative answer to the decision problem for arithmetic.

If the informal notion of effective computability that is formalized by Turing's definition of Turing machines thus corresponds to a pre-theoretical conception of the epistemic or procedural capabilities of an agent constrained by the limitations of finite representation and finite time, the rigorous notion of computability formalizes this notion by providing definite criteria for what can and cannot be said to be achievable by means of any regular procedure that can be carried out by an agent so constrained. The idea of the finitude of such an agent, both in the sense of the finitude of its capacity to represent procedural rules and in the sense of the finitude of the time available to it in which to reach an answer, plays, as we have seen, a constitutive role in this formalization of this idea of an effective procedure. But this idea is not to be contrasted with some other idea of regular procedures that are not effective in this sense; rather, in a direct way, the idea of a constitutive finitude, such as Turing appeals to it in his argument, arguably determines the very idea of a (regular) procedure itself. It is, in particular, not obvious what could be meant by the description of a decision procedure as one that can only be defined by more than finitely many symbolic expressions, or one that necessarily would take a greater than finite amount of time to reach an answer.[11] In this respect, although Turing appeals explicitly to the necessary limitations of an (indifferently human or mechanical) agent, what is at issue in his demonstration of the negative answer to the decision question is really the structure and limits of the very idea of a regular procedure itself. In particular, it is not necessary to suppose that Turing's limitative result turns on any specific or contingent limitation of human beings as finite knowers in relation to an idealized conception of possible procedural knowledge not limited in the ways that we are. Rather, since it arguably formulates and captures the constitutive idea of *any* regular and

determinate procedure whatsoever, Turing's notion of computability also captures the necessary structure, and limitations, of anything that we can understand as regularly or methodically attainable knowledge at all.

Be this as it may, the specific structural conception of the rule-governed relationship between finite signs and their application which is suggested by Hilbert's formalism and developed in Turing's formalization of computability soon found wide and decisive application, in the early stages of the "analytic" tradition, to the study of both formal and natural languages. On the conception that became widespread and dominant in these early stages, a language (whether artificial or "natural") is understood as a regular structureThe specific conception of the rule-governed relationship between finite signs and their application suggested by Hilbert, Turing, and others soon found wide and decisive application to the study of both formal and natural languages. On the conception, in particular, a language (whether artificial or "natural") is understood as a regular structure of rules for the intercombination, transformation, and application of signs. Sentences or symbolic expressions capable of truth or falsity are understood as generated from a finite vocabulary of simple or primitive signs, in accordance with the rule-determined logical syntax of the language. This conception provided a basis for the program of the "logical" analysis of language pursued by philosophers such as Russell and the early Wittgenstein, as well as for the programmatic construction of new and logically clarified formal languages for the empirical and formal sciences in the structuralization project of the Vienna Circle and especially Carnap. In connection with specific conceptions of the referential scope of factual, meaningful, or verifiable language, it also made possible the project of a limitative or critical tracing of the boundaries of linguistic sense or meaningfulness. This project was sometimes presented as a kind of continuation by linguistic means of Kant's classical limitative project in the transcendental analytic of the first *Critique* (cf. Wittgenstein's preface to the *Tractatus*, as well as the title and project of P.F. Strawson's linguistically inflected reading of Kant, *The Bounds of Sense*)..[12]

One of the most significant early positive applications of the structural/recursive conception of linguistic sense, though, was made by Alfred Tarski in the 1931 paper "The Concept of Truth in Formalized Languages." In the article, Tarski seeks to find a general method for constructing a definition of truth for particular formal languages. The orientation for his approach is provided by what Tarski takes as the "most natural" structure for a definition of the everyday or colloquial concept of a true sentence, such as it is presupposed in ordinary language. This structure is summarized by Tarski as holding that "a true sentence is one which says that the state of affiars is so and so, and the state of affairs is so and so"; Tarski suggests that this is similar to the famous formulation given by Aristotle in Metaphysics 3, 7, 27). ("To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, or of what is not that it is not, is true.) In relation to particular, well-defined formal languages, the application of the general conception (what Tarski calls the "semantical" approach)In relation to particular, well-defined formal languages, the application of what Tarski elsewhere calls the "semantical" approach to truth yields the general schema, today usually described as Tarski's convention T, that systematically connects sentences in the language with statements of their truth conditions. It can be illustrated by its classic "snowbound" example:

[12] E.g., in the preface to Wittgenstein (1921) and in the title and argument of Strawson (1966).

"Snow is white" is true *iff* snow is white.

The idea underlying the schema is that a definition of truth will be successful just in case it coordinates each sentence in the language, named by the device of quotation, with its truth conditions. But Tarski immediately notes that the 'semantical' approach, if conceived as formulated within the same language whose structure is to be elucidated, faces at least two problems. The first arises from the well-known paradox of the Liar: in particular, in any language which can formulate its own truth predicate and in which it is possible to form, by means of quotation marks or some other device, a name for each sentence, it will be possible to produce a sentence asserting its own falsehood. Such a sentence, when placed into the T-schema, will lead directly to a contradiction. The second problem concerns the possibility of forming names by means of quotation for arbitrary sentences itself. If the names of expressions formed by quoting them are themselves taken as syntactically simple expressions, then it will be impossible to coordinate them regularly with the internal structure of the quoted sentences in the way the T-schema demands. If, on the other hand, they are treated as syntactically complex expressions, we must provide a rule for the transformation relating what is quoted to the quotation in a suitable way. But as Tarski points out, this device by itself suffices only to construct syntactically simple constant expressions, each one purported to refer to one particular (syntactically complex) expression, but the actual link between the name and what it stands for is then obscure and it is impossible significantly to generalize the T-schema itself. If, for instance, one attempts to generalize it as:

2) For all p, 'p' is a true sentence if and only if p.

Then it is not permissible, on the conception, to substitute anything else for the symbol 'p' in its occurrence within the quotation marks (since, on the conception, the *whole* expression formed by the open and closed quotation marks and the symbol is a syntactically simple one). For a particular substitution, for instance "it is snowing", we then obtain only the senseless expression, " 'p' is a true sentence if and only if it is snowing".

To remedy this difficulty, Tarski suggests treating expressions formed by quotation marks, not as syntactically simple ones, but as complex expressions, some of which actually express functions taking sentences to names. The problem that now looms, however, is that these functions cannot be construed as wholly extensional, if they are to be useful in the formation of a general definition of truth. For instance, if " 'p' " in (2) is to express a function taking a sentence to a name, and for some particular p there is some q which holds iff p, then 'q' must be taken as identical to 'p' if the function is extensional. Accordingly, the truth-definition in terms of quotation-mark names is not formulable for those who allow only extensional functions or wish always to avoid intensionality.

To avoid both problems (the problem of paradox and that of the intensionality of the quotation used in the T-schema), Tarski suggests a different approach. Instead of directly constructing a truth-definition by means of the T-schema or some version of it, truth for a particular language can be defined by means of what he calls a *structural* definition (1933: 163). The key idea is to define a true sentence as one which possesses certain structural properties related to the structure of the language as a whole, or one

which can be obtained from simpler sentences by means of particular structural transformations. The suggestion renders systematic truth-definitions possible for particular formal languages whose structure is definite and unchanging; but, Tarski quickly argues, it is not likely to be useful in application to natural languages, which are by contrast, not "finished, closed, or bounded by clear limits." (p. 164). Moreover, the characteristic *universality* of natural languages – their general ability to express anything that can be expressed in any language – suggests that their truth predicates cannot be regimented without contradiction. For this very universality, when coupled with devices of self-reference that exist in every natural language, leads directly to paradoxes of the Liar type. Accordingly, Tarski maintains that a structural definition of truth for a particular language must be carried out in a second language which incorporates the first, or translations of all of its expressions, as a fragment. It is then no longer possible to formulate the Liar paradox and the related semantic paradoxes, since the language in which expressions are named and described is different from the language of those expressions themselves. And since the whole project is conducted in a meta-language, the problem of coordinating quotations within the object language to what they quote is similarly avoided.

It is now possible systematically to characterize the truth of complex sentences on the basis of a description of the structural properties of simpler sentences. In fact, given a language with the ability to produce infinitely many complex sentences by combining simpler ones, this recursive methodology will actually be necessary. But additionally, since many structurally complex sentences are not built up from simple ones (1933: 189) but are, rather, special cases of sentential functions (i.e. those with no free variables), it also necessary to define truth itself in terms of a more general and structurally basic notion. This more general notion is *satisfaction*; for example, an object x satisfies the one-variable function "x is white" if and only if it is white. Given this and similar basic satisfaction relations characterizing the finitely many primitive predicates, the structure of the truth predicate itself can now be thought of as built up recursively, in accordance with the logical and inferential structure of the language. Such a definition, Tarski suggests, will in fact be in accord with the T-schema; but since it is not formulated in the language to which it applies, it will also avoid the antinomies and the problems of quotation which made trouble for a straightforward (non-structural) definition of truth simply in terms of the schema.

Tarski's project for the recursive definition of truth for formal languages thus turns on considerations of finitude in at least two important ways. First, it is necessary in order to apply the method without contradiction that it be applied to an essentially "closed" language from a metalanguage position outside the object language itself; thus, such a language must be thought as having a surveyable structure and determinate limits capturable from the stronger meta-language position.. As a direct result, it is not possible to envision giving, in strict accordance with Tarski's method, a *general* definition of truth for arbitrary languages. What is possible is only the structural-recursive definition of specific truth predicates for individual languages whose structure is well-understood and surveyable from an external position. Second, and just as important, though, the applicability of the recursive method itself depends on their being at most finitely many primitive predicates in the language and on their structural relations themselves being finitely characterizable by means of determinate rules. Only by means of such a structure, where a finite axiomatization captures the essential bases and rules for an infinite capacity to produce meaningful (and potentially true) sentences, is the general possibility of a structural truth definition in accordance with the T-schema secured, and the problems of quotational reference and intensionality that accompany a straightforward application of the schema avoided.

Both considerations of the essential finitude of language survive, albeit with important modifications, in Donald Davidson's influential program of the development of systematic theories of meaning for natural languages. In particular, the structural basis of Davidson's approach to the systematic interpretation of a language is the provision of a Tarski-style recursive truth definition for the language in question. In the translation or interpretation of an initially unfamiliar language, the radical interpreter moves from a determination of utterances taken as true by the language's speakers to a systematic correlation of sentences with their truth conditions. In thus applying the Tarskian structure to the interpretation of natural languages rather than the definition of truth for formal languages, Davidson in a certain way inverts Tarski's own procedure. Rather than assuming the translation of the object language into the metalanguage and thereby defining truth, Davidson starts with attitudes toward sentences held true and works toward a systematic interpretation which can provide the basis for a translation to the interpreter's own language. The interpretation, though subject to the significant indeterminacies earlier pointed out by Quine in his discussion of radical translation, nevertheless ultimately yields a theory capable of accounting for how the meanings of sentences (in an intuitive sense of "meaning") systematically depend on the meanings of words.

Such a theory, Davidson suggests, amounts to an explicit description of what is known implicitly or on the level of competence by a speaker of the language. In particular, it yields a systematic, recursive description of the structure of the language which must, Davidson argues, be capable of a finite axiomatization. For, as Davidson argues in the 1970 paper "Semantics for Natural Languages," since the number of meaningful expressions of a language is unlimited, any reasonable theory of their production must be able to explain this productivity on the basis of a finite number of underlying features (1970: 55). It is just such an explanation, Davidson goes on to argue, that a semantic meaning theory, with the structure of a Tarskian truth-theory can provide. In particular, Davidson urges, linguists and philosophers should appreciate the ability of such a theory to yield "a precise, profound, and testable answer to the question how finite resources suffice to explain the infinite semantic capacities of language…" (1970: 55).

While this conception of constitutive finitude thus makes possible, according to Davidson, a systematic theory of the structure of a language, the considerations that support it also provide important limitations on the form that semantical theory can reasonably take. In the early (1965) article "Theories of Meaning and Learnable Languages," Davidson considers several existing theories of semantical phenomena and argues that each is inadequate in that it conflicts with the requirement that a language must be learnable in a finite time and on a basis of at most finitely much information. In particular, as Davidson argues, a theory that does not do so will fail to account for the fact that language is learnable at all:

> When we can regard the meaning of each sentence as a function of a finite number of features of the sentence, we have an insight not only into what there is to be learned; we also understand how an infinite aptitude can be encompassed by finite accomplishments. For suppose that a language lacks this feature; then no matter how many sentences a would-be speaker learns to produce and understand, there will remain others whose meanings are not given by the rules already mastered. It is natural to say such a language is *unlearnable*. This argument depends, of course, on a number of empirical assumptions: for example, that we do

> not at some point suddenly acquire an ability to intuit the meanings of sentences on no rule at all; that each new item of vocabulary, or new grammatical rule, takes some finite time to be learned; that man is mortal. (1965: 8-9)

Davidson goes on to consider four examples of theories of aspects of semantic structure that threaten to render language unlearnable in this sense by requiring, within its structure, infinitely many expressions taken as semantically primitive and thus not explicable on a finite regular basis. The first is the theory of the meaning of quotations given by Quine and Church; the problem here is essentially the same one that Tarski had pointed out in considering the formation of infinitely many "quotation-mark names" for expressions. The second, third, and fourth examples all concern theories of intensional meaning or indirect discourse; Scheffler's "inscriptional" theory of indirect discourse, Quine's account of the structure and meaning of belief sentences, and Church's account (following Frege) of possibility of referring to senses in indirect discourse all threaten, in invoking the existence of infinitely many expressions with primitive meaning, to run afoul of the essentially finite structure of actually learnable languages. The provision of a systematic theory of meaning with the Tarskian structure, by contrast, in providing a systematic basis for effectively determining what each sentence means by giving its truth conditions, suffices to account for the "skill or ability of a person who has learned to speak a language." (p. 7-8). Such a theory is thus certainly to be preferred, and is at any rate sufficient, in systematically providing truth conditions, to underwrite a structural account capable of accounting fully for the sentential meaning without conflicting with the requirement of finite learnability.

Davidson's program for the development of meaning theories bears close connections, both motivational and thematic, with Chomsky's linguistic project of describing underlying structural features of the grammar of natural languages. These connections extend as well to the conception of the finitude of the basis of linguistic capacities to which Davidson appeals, and which similarly underlies Chomsky's central distinction between linguistic competence and performance, as it is specified, for instance, in *Topics in the Theory of Generative Grammar* (1966):

> A distinction must be made between what the speaker of a language knows implicitly (what we may call his *competence*) and what he does (his *performance*). A grammar, in the traditional sense, is an account of competence. It describes and attempts to account for the ability of a speaker to understand an arbitrary sentence of his language and to produce an appropriate sentence on a given occasion. If it is a pedagogic grammar, it attempts to provide the student with this ability; if a linguistic grammar, it aims to discover and exhibit the mechanisms that make this achievement possible. The" (1966:10). This competence is, moreover, expressible as a "system of rules that relate signals to semantic interpretations of these signals. The problem for the grammarian is to discover this system of rules; the problem for linguistic theory is to discover general properties of any system of rules that may serve as the basis for a human language…[13](1966: 10-11).[14]

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d to produce … novel utterances that are similarly understandable to other native speakers"…"What… is the precise nature of this ability?"

[14] Compare also Miller and Chomsky (1963: 271).

These considerations are similar to those that motivate Davidson's conception of the structure of a theory of meaning; both, in particular, turn centrally on the distinction between an underlying ability which must be explained in explicitly finite terms and an unlimited or infinite possibility of its application in performance. As for Davidson, both the necessary learnability of a language and its unlimited generativity are here essential features that constrain in a decisive way the form that a systematic theory of the structure of language must take.

Nevertheless, as Davidson in fact points out in "Truth and Meaning," Chomsky's syntactic approach to grammar stops short of accounting for the *semantics* of language, which comes into view, as Davidson argues, only with the specific connection to a (Tarski-style) theory of *truth*. (In "Topics in the Theory of Generative Grammar" for instance, as Davidson notes, though Chomsky suggests that transformational grammars may be preferred to phase-structure ones for their greater ability to deal with semantic structure, he also comments that semantics remains in a "primitive state" and has so far resisted "any deep analysis." (p. 22).) In particular, whereas a transformational grammar of the sort Chomsky suggests suffices to account for the *grammaticality* or *meaningfulness* of sentences, the addition of considerations of truth-conditional semantics motivates the different but "analogous" task of a systematic semantics capable of yielding a recursive truth-theory for a language that accords with Tarski's convention T. In 1972, Davidson and Gilbert Harman, the editors of the massive anthology Semantics for Natural Languages (drawing on talks given at a conference in 1969), put the program in a clearly formulated statement at the beginning of the introduction:

> The success of linguistics in treating natural languages as formal syntactic systems has aroused the interest of a number of linguists in a parallel or related development of semantics. For the most part quite independently, many philosophers and logicians have recently been applying formal semantic methods to structures increasingly like natural languages. While differences in training, method and vocabulary tend to veil the fact, philosophers and linguists are coverging, it seems, on a common set of interrelated problems.

The problems to which Davidson and Harman refer are none other than those of a systematic rule-governed account of the meaning of a language, insofar as a human learner and speaker is capable of understanding and applying it, or in other words of the infinite application of meaning as the possible outcome of the constitutive capacities of a human speaker of language, understood as essentially finite in time and space.

As we have seen, the structural-recursive conception of the finite basis of sense, which is common ground for Turing, Tarski and the early Davidson, depends centrally on the concept of a *system of rules* underlying actual linguistic behavior or practice. The rules, although necessarily finitely representable, are seen as both underlying and explaining the infinite generativity of language in allowing for the comprehension and production of infinitely many new sentences in varying contexts of use. As Quine himself pointed out in his contribution to the 1972 volume edited by Davidson and Harman, the conception involves a significant ambiguity in that the rules which are to become explicit by working out the basis of semantics are seen as, on one hand, *explicative* of performance but also, on the other, as actually causally *guiding* behavior on an unconscious and generally inexplicit level; it is thus possible to

ask, as Quine does, whether there might be several possible systematic reconstructions of the identical verbal behavior, and if so, whether there is any significant basis for identifying just one of these reconstructions as the correct one. More penetratingly, and outside the ambit of the typically behaviorist setting of Quine's appeals to linguistic evidence, it is possible and trenchant to consider the implications for the picture of the radical challenge posed by Wittgenstein, in the *Philosophical Investigations*, to the picture of rules and rule-following at the basis of the formalist picture of a language as, essentially, a rule-determined calculus (cf PI 89).

Because of the centrality of the idea of a finitely stateable rule to this picture, it is trenchant to consider the implications for it of the radical line of questioning posed by Wittgenstein, in the *Philosophical Investigations*, about rules, rule-following, and their role in the practice of language. At the beginning of the skein of passages usually described as the "rule-following considerations," Wittgenstein stages, in an interlocutory voice, the conception of a rule of a series according to which the infinite application of the rule is known in general by knowing or understanding the (finitely expressed) rule itself:

> 147. "…When *I* say I understand the rule of a series, I'm surely not saying so on the basis of the *experience* of having applied the algebraic formula in such-and-such a way! In my own case at any rate, I surely know that I mean such-and-such a series, no matter how far I've actually developed it." –
>
> So you mean that you know the application of the rule of the series quite apart from remembering actual applications to particular numbers. And you'll perhaps say: "Of course! For the series is infinite, and the bit of it that I could develop finite."

This conception of what is involved in knowing the infinite application of a finite rule invites the question, which Wittgenstein immediately poses, of the nature of this knowledge, and of whether it is something known constantly, or perhaps only when one is in a certain state of consciousness or carrying out a certain mental process. One idea, in particular, to which a defender of the conception may appeal is that of an underlying apparatus or mechanism, perhaps located in the actual hardware of the brain.

As Wittgenstein immediately objects, however, this suggestion equivocates crucially between criteria for the ascription of the specific structure of the apparatus *to* someone on the basis of their performance, and criteria for this structure itself:

> 149. If one says that knowing the ABC is a state of the mind, one is thinking of a state of an apparatus of the mind (perhaps a state of the brain) by means of which we explain the *manifestations* of that knowledge. Such a state is called a disposition. But it is not unobjectionable to speak of a state of the mind here, inasmuch as there would then have to be two different criteria for this: finding out the structure of the apparatus, as distinct from its effects. (Nothing would be more confusing here than to use the words 'conscious' and 'unconscious' for the contrast between a state of consciousness and a disposition. For this pair of terms covers up a grammatical difference.)(§149).

This consideration and related ones lead Wittgenstein to argue that, though the *grammar* of the word "know" is "evidently closely related to the grammar of the words 'can', 'is able to,'…", (§150) coming to know how to go on with the indefinite development of a series (and hence in attaining the "mastery" of a technique) cannot consist simply in coming to know *any* finite item. For *any* such item may, of course, be variously applied or interpreted. At the same time, the conception on which a rule is something like a rail laid to infinity, and thus capable of determining all of its infinite application in such a way that "all the steps are really already taken", is only a "mythological description" of its use (218,219, 221). It is thus incoherent to suppose that any finite, symbolic expression of a rule, or any set thereof, can suffice for the explanation of the unlimited application of the use of a word in practice. For each such expression can be variously interpreted in any new case of application, and if a new rule is needed for each case of application we will be left with an infinite regress. In order to answer to the apparent paradox, according to Wittgenstein, it is necessary to conclude that "there is a way of grasping a rule which is *not* an interpretation, but which, from case to case of application, is exhibited in what we call 'following the rule' and 'going against it.'" (201).(§§ 218,219, 221).

If it is, then, ultimately incoherent to portray the unlimited application of a word in new sentences and situations as simply the pre-determined outcome of a finitely represented rule, how *can* we understand the relationship between the finite learning of words and their infinite possibilities of meaningful use? The sketch of an answer is provided, in the course of a detailed reading of Wittgenstein's "vision of language," by Stanley Cavell in *The Claim of Reason*. As I shall argue, this sketch provides elements of a third, different picture of finitude and the infinite in relation to sense, what I shall call the post-structural picture. In particular, Cavell examines what can be meant by saying both that "a word is learned in certain contexts" and that, so learned, it allows of "appropriate projections into further contexts." (Cavell 1999:180)

> If what can be said in a language is not everywhere determined by rules, nor its understanding anywhere secured through universals, and if there are always new contexts to be met, new needs, new relationships, new objects, new perceptions to be recorded and shared, then perhaps it is as true of a master of a language as of his apprentice that though 'in a sense' we learn the meaning of words and what objects are, the learning is never over, and we keep finding new potencies in words and new ways in which objects are disclosed. (p. 180)

ButAs Cavell emphasizes, to say that the projection of words into new contexts remains always in a way "open," or that it does not proceed wholly in a pre-determined way according to definite rules, is not to deny that the possibilities of projection are at the same time deeply, and essentially, *controlled* by what we can call their grammar. And this structure of controlled variance, or rather the specific way in which control and variance interact, is itself essential, Cavell suggests, to our being able to do what we can do with language, to its irreducible role in what Wittgenstein calls "this complicated form of life:"

> I am trying to bring out, and keep in balance, two fundamental facts about human forms of life, and about the concepts formed in those forms: that any form of life and every concept integral to it has an indefinite number of instances and directions of projection; and that this variation is not arbitrary. *Both* the "outer" variance and the "inner" constancy are necessary if a concept is to accomplish its tasks – of meaning, understanding, communicating, etc., and in general guiding us through the world, and relating thought and action and feeling to the world… (pp. 185-186)

Thus, if the projection of words into new contexts is characterized by the structure of "outer variance" and "inner constancy" that Cavell describes, what happens at the moment of the new application of a word is not simply the mechanical iteration of a pre-determined and always determinate rule, but is nevertheless essentially constrained by *our* grasp of its sense, as we have learned it in the way that we ordinarily do. This way of learning is as much a matter of coming into a world, Cavell suggests, as it is of learning to master a system. But that our human initiation into a shared world and its manifold dimensions of sense and significance is both structural *and* substantive is part of what Wittgenstein suggests by saying that "*Essence* is expressed by grammar" (*PI* §186) and by meaning this, not as a repudiation of the concept of essence, but rather as a development of it in explicitly linguistic terms.

According to Cavell, we can gain an appreciation for the philosophical uses of this conception of sense and essence, whereby the projection of our understanding of the sense of a word calls for a moment of reflection on what we, in a sense, already know, but nevertheless tolerates novelty in application and innovation in extension, by considering the characteristic method of "ordinary language philosophy," as practiced in particular by Wittgenstein and J.L Austin. It is characteristic of this practice, Cavell suggests, to ask "what we should say" in a variety of contexts. The cases imagined are not supposed to *exhaust* the possible uses of a word or concept; nor do they simply illustrate facts about its range of possible significance that could be established independently by other means. Instead, the consideration of particular cases of "what we should say if…", and the claim to establish results based on this consideration, involves a distinctive kind of appeal, what Cavell calls an appeal to the "projective imagination." The term, Cavell emphasizes, does not stand for some special faculty or tutored skill, but rather for "a family of the most common of human capacities," that of imagining what we would say, were such-and-such to happen. The reflective knowledge gained by the explicit use of this method is neither a prediction of events to come nor a species of empirical or quasi-empirical knowledge of possible linguistic behavior; rather, Cavell emphasizes, it is actually a species of *self*-knowledge. It is in the exercise of this form of imagination, in particular, that the standing and structural possibilities of the language that I speak come into view. But at the same time, through this exercise the possibilities that *I* can project onto the world – the routes of significance that I can inhabit, the senses of meaningfulness that I can share – are also shown in the variation of situations into which *they* can be projected by me.

This conception of sense, finitude, and projection bears similarities both to Kant's conception of the transcendental imagination as the faculty capable of mediating between the singularity of intuition and the generality of the concept and Heidegger's own conception of projective sense. In particular, Cavell's characterization of the capacity to project concepts into new particular cases as a species of the imagination parallels Kant's own claims about the imagination as the mysterious "common root" of intuition and the understanding. And his specification *of* this appeal to the imagination as an invocation of the ability to project routes and dimensions of significance, on the basis of which aspects and entities in the world are disclosed, parallels Heidegger's understanding of sense as the articulable structure of the projective disclosure of beings. Still, Cavell's conception differs from both of these by its specific reference to the structure of *language*, and hence to the "essential" dimension of grammar, and thus to the obvious but difficult thought that our "human" possibilities of meaning are everywhere regulated and structured, even if not absolutely ruled or always determined, by the complex form of the language we learn and speak. One implication of this, as we have seen by contrast with the structuralist/recursive picture, is that the projection of a word into a new context or its application in a new case is not simply

the mechanical iteration of a rule, but rather irreducibly involves the possibility of a *reflective* consideration of the form of my language as it structures my possibilities in relation to the *particular* situation. However, since language is not simply my language, as the world is not simply my world, the reflection, even in operating as a mode of self-knowledge, involves as well an essential appeal to what is not only my own: to that complex structure of dimensions of significance and routes of possibility that I share with others in sharing the possibility of language, or ultimately in being human at all. This suggests that the "capacity" or "ability" to project can no longer be thought of simply, as it still is for Kant and Heidegger alike, as an aspect of the traits or facilities of an individual human being or "case" of Dasein, determined as finite in space and especially (in relation to death) in time. Rather, what is made explicit in the philosopher's appeal to the projective imagination and what is thereby shown to be implicit in every occasion of linguistic use is the complex reflective structure wherein the openness of linguistic sense and the "inner" determinacy of grammar mutually co-constitute *each other* and thereby mutually condition the meaningful possibilities of a life.

This language is in some sense shared, and essentially so. Accordingly, it is no longer possible, in the context of this conception of sense, to consider linguistic projection to be simply the structural outcome of the application of a set of rules unconsciously known or tacitly represented by the individual subject. But this does not mean that considerations about the overall semantic structure of language and its connection to truth no longer play an important role. We can see the kind of role that they may play in the context of the post-structural conception, indeed, by considering some aspects of Davidson's later development of the implications of considering the problem of truth in relation to the underlying structure of interpreted language.

Some of the consequences of this strengthening are evident in Davidson's last book, the posthumously published *Truth and Predication*. In the book, Davidson considers a number of objections to the project of giving Tarski-style truth definitions or to the claim that Tarski's approach usefully illuminates the concept of truth. One of these is that Tarski, in showing how to define truth structurally only for *particular* formal languages, has not provided any real guidance as to the *general* structure of truth, or what is shared by all of the specific truth-predicates for specific structurally defined languages. Another, related objection is that the Tarskian definition of truth for a language, as finitely axiomatized on the basis of primitive satisfaction relations for defined basic terms, defines truth statically and provides no guidance as to how the concept can be applied to new cases not included in the original axiomatization. In response to both objections, Davidson acknowledges that, though Tarski's definitions do provide a degree of guidance with respect to the general concept of truth, there must be more to say (Davidson 2005: 27-28). In particular, although it is idle and fruitless to expect a general *definition* of truth, the concept of truth can be significantly *illuminated* by considering its actual interrelationship with other basic concepts such as meaning and intention. This illumination is in fact provided, Davidson suggests, by considering the conditions under which a Tarskian truth theory actually *applies* to a given natural language, a question which cannot be answered by Tarski's theory alone (p. 36). As Davidson puts it, "if the question can be raised whether a truth definition really does define truth for a given language, the language must have a life independent of the definition."2005: 36). It is to the question of the broader and undefined form of this life that the active practice of interpretation must ultimately be directed, even if it uses the general pattern of Tarskian truth-definitions as a structural clue.

The post-structural picture thus has in view, in addition to the determinate structure of particular languages, something like the general structure of language as such. For this consideration, it is no longer possible to suppose, as in Tarski's original picture, that all of the relevant structure of a language is accessible from the simply external position of a stronger metalanguage; rather, interpretation is essentially, and constitutively, performed from the *internal* position of language itself (and it is no longer, in connection with natural languages, trenchant to suppose that some languages are stronger in a relevant sense than others). It is also no longer possible to consider particular languages, in their specific structures of satisfaction and truth, to be set off against worldly objects as particular objects of representation. Rather, in the post-structural conception, language is as such universal, and already includes within itself, in the very structure that links truth and sentential meaning, the structure of any referential or reference-like relationship "between" words and things. In *Truth and Predication*, Davidson does not hesitate to draw the radical anti-representationalist conclusion this suggests: if the constitutive link between truth and sentential meaning is preserved, it is not possible to maintain that truth consists basically in *any* form of relationship between objects and individual linguistic terms. Accordingly, we must reject correspondence theories of truth, and along with this we must "question the popular assumption that sentences, or their spoken tokens, or sentence-like entities or configurations in our brains, can properly be called "representations," since there is nothing for them to represent." (p. 41). Similarly, as Davidson suggests in connection with a reconsideration of the problem of the nature of the structural unity of the proposition, a problem that has vexed philosophers since Plato, it is no longer possible to suppose that the truth of sentences is to be *defined* in terms of more basic relations of satisfaction. (2005: 41). Rather, in the context of the interpretation of natural languages, Tarski's structure must again be reversed: rather than building up truth definitions systematically from satisfaction relations, the pattern of these basic relations as well as the identity and meaning of "primitive terms" must be determined from the pattern of sentences held true.

This would be circular, Davidson admits, if the intention were to *define* truth, but the intent here is again, not to define truth but rather to *use* the concept of truth, as *we* already understand it, in interpretation (2005: 160). In doing so, we remain decisively constrained by the form of a possible theory of meaning for a speaker which is, as Davidson still says, sufficient, were it to be explicitly known, to allow an interpreter to understand her. But even if such a theory *were* explicitly known, in applying it we would also necessarily make use of a constitutive and general idea of truth with which we must already share, and which thus always already in advance conditions any possibility of understanding as such. This general idea is, in an obvious sense, not specified or specifiable as belonging to a particular language or as having a unique determining basis in any empirical situation or contingent set of facts. Nevertheless, in its specific link with the possibility of sentential meaning, it is what establishes the very possibility of interpretation, or of the intelligibility of language as such.

For the post-structural conception, the everyday use of language thus constantly draws on, because it presupposes as its ultimate and virtual horizon, a constitutive appeal to the *infinitude* of sense. Without this horizon, neither the open projection of language in its everyday use nor the explicit retrieval of its basis in reflective theorizing would be possible. This constitutive infinitude is visible in the necessary appeal to a general concept of truth not specific to any particular language, in the "openness" of the projective imagination with respect to new situations and contexts, and in the reflective structure of the moment of projection itself, in which my reflective awareness of my own language is summoned to

disclose the possibilities of the world as I can come to know it. In each of these aspects, the post-structural picture can be sharply contrasted with the structuralist/recursive picture, wherein sense is infinite only as the unlimited possibility for the mechanical iteration of determinate rules or rule-liked structures, fixed in advance. But this does not mean that the idea of a constitutive infinitude at the basis of sense is simply opposed to the claim that human language is also essentially finite, in the sense of being grasped, learned and spoken by beings whose life is inherently finite in time in space. Rather, on the conception, the constitutive infinitude that is presupposed *in* the constitution of linguistic intelligibility must provide the terms in which this (equally essential) human finitude must ultimately be understood. In particular, as we have seen, the specific infinitude of sense is not conceived here as basically alien or exterior to the structure of a human form of life, as it still is in Kant's opposition between the human and the divine, and perhaps still remains in Heidegger's own picture. Instead, it is shown at the necessary and problematic limit of the attempt to conceive systematically of how this form of life is itself constituted and lived.

With the idea of an infinite reflective dimension as figuring in the constitution of sense, it becomes possible to consider how this idea affects the very idea of a finitely determined process or procedure, as it figures, for instance, in the concept of a formal, effective procedure that is suggested by Hilbert and formulated by Turing. As we have seen, it was Turing's rigorous formalization of the concept of effectivity that provided the basic underlying framework for all existing technologies of digital computation, which in their development as information and communication technologies have shaped and transformed human life around the globe. But it is also a notable and remarkable fact that Turing's formalization of the notion of an effective process, in the 1936 paper, rigorously demonstrates the inherent *limitation* of this notion by showing that there are well-defined mathematical problems that are not decidable in an effective way by *any* such (finitely specifiable) mechanical procedure. The result is closely related to Gödel's incompleteness theorems (in fact it has a form of the first theorem as a consequence) and bears at least a structural resemblance to Russell's paradox and other set-theoretical paradoxes that turn on the phenomena of self-inclusion and reflexivity.

If Turing's result can be generalized to the consideration of the structure of recursive theories of meaning (in the style of the early Davidson), it becomes possible to consider as an inherent consequence that no structural-recursive determination of sense can be completely effective, or in other terms, that sense is in important ways inherently *undecidable* by means of finitely specifiable procedures. This undecidability might naturally be seen, furthermore, as an inherent result of the way in which language reflexively figures itself, in its own necessary devices for internally representing its own sense. In particular, if this line of thought is roughly correct, it would be in connection to the internal phenomena of the presentation of sense, in (for example) quotation, belief sentences, and the representation of intensionality in general, that this inherent undecidability would be most structurally evident and profound. In this way, while the palpable difficulties that Davidsonian structural/recursive theories have confronted in their attempts to handle these phenomena would be shown to have a deeper structural source in the very limits of the idea of an effective procedure itself, it would also be possible to treat them as nevertheless having a *determinate* positive structure and existence. This, in turn, might be one way that intension and meaning could be accommodated within what is still (in an extended sense) an interpretative theory of language, rather than simply being rejected or excluded as inherently *indeterminate* and thus essentially unreal (as they are, for example, in the context of Quine's

extensionalism in *Word and Object*). At the same time, in the less theoretical context of the assumed universality of claims of technological effectiveness and the presumptive procedural determination of all real possibilities of collective action that is characteristic in many ways of contemporary "late capitalist" culture, the demonstration of an actual and rigorous undecidability at the basis of sense could provide important resources for critical positions that aim to challenge these assumptions both in thought and in action.

III

Wittgenstein's critical consideration of rule-following, and the positive vision of language it involves, thus bear against the structural-recursive picture of the production or use of language as based in the rule-governed capacities of an individual, demonstrating that this picture cannot itself ultimately account for the projective phenomena of meaning that it attempts to explain. This appears to be confirmed, as well, by the positive undecidability that follows directly from the structuralist/recursive picture as soon as it is offered as an account of the structural basis of truth. For similar reasons, though, Wittgenstein's critique and the consequences of undecidability also bear against the integrity of the picture of conceptual subsumption sketched by Kant in the first *Critique*, whereby, as we have seen, the subsumption of appearances under concepts depends ultimately on the obscure power of the imagination in providing schemata for the concepts. As such, Wittgenstein's consideration of rule-following problematizes in a basic way the Kantian picture according to which sense itself is produced by means of the unifying activity of an individual psyche or subjectivity whose highest structural form is that of the transcendental unity of apperception formally marked in the privilege of the "I think." As has often been noted, Wittgenstein's critique thus challenges the priority of the individual subject of experience or cognition in providing the ultimate constitutive basis for linguistic meaning or sense. What may be less immediately obvious, though (but what we will show here) is that it also has direct and profound consequences for the original essence of given time.

Kant's idea of the transcendental Schematism is, as we have seen, the idea of a *power* of the representing subject that unites the faculties of the understanding and the intuition and is thus the common root of the spontaneity characteristic of the former and the receptivity characteristic of the latter. The power is that of applying a concept or category (once attained) to the indefinite or infinite number of appearances that can be subsumed under it. What accomplishes this power, in the subject, is explicitly, for Kant, the "representation of a rule" which connects the concept, as representation, to this indefinite number of appearances: in the case of empirical concepts, at least, this is a rule for the indefinite *provision* of images that allow the concept and the appearance to gain a "homogenous" form. The case of the schematism of pure concepts, or categories, is more difficult, since in this case there can be, according to Kant, no adequate image, and so no provision by the imagination of an image that renders the category, in this sense, "homogenous" with the appearance. Nevertheless, in this case as well as in general, the schematism remains the representation of a rule for subsumption through which it becomes possible to subsume an indefinite number of appearances under the concept. In the case of the schematism of a category such as that of substance – wherein, as we have seen, Heidegger sees Kant's account of the general form of the subjective givenness of time – this representation is that of a

pure rule of indefinite persistence which must apparently be presupposed as underlying the unified temporal form of inner as well as outer sense.

In the Philosophical Investigations, Wittgenstein's critical consideration of the basis of linguistic meaning takes the form of the radically posed question of the nature of rules and what it is to follow them. As he argues, there is a paradox involved in assuming that any symbolic expression of a rule, or more generally any finite representation of it, can by itself determine the infinite number of possible applications of it; for every rule, understood in this way, would presuppose a further rule for its interpretation and successful application. There must accordingly be a "way of following a rule" that is not an interpretation in this sense (PI 201). At PI 213, an interlocutory voice considers the possibility that the ability to continue a series indefinitely beyond its initial segment consists in having chosen *one* interpretation of it. In view of the "paradox" of interpretation of PI 201, *this* suggestion is untenable: the explanation in terms of the initial adoption of *one* interpretation capable of eliminating all doubt is here neither necessary (since the possibility of doubt to which it responds in fact *need* not arise) nor sufficient (since the provision of an interpretation in this sense *cannot* "fix" the infinite number of cases uniquely, all by itself). This leads the interlocutory voice to the suggestion that "intuition" is needed to remove the (possible) doubt in each case:

> Only intuition could have removed this doubt? -- If intuition is an inner voice – how do I know *how* I am to follow it? And how do I know that it doesn't mislead me? For if it can guide me right, it can also guide me wrong.
>
> ((Intuition an unnecessary evasion.))
>
> 214. If an intuition is necessary for continuing the series 1 2 3 4 …, then also for continuing the series 2 2 2 2 …

The conception that underlies the thought that the continuation of a series, if it cannot be determined once and for all by a single "interpretation" in advance, requires a new intuition at each instance would also, if tenable, also have to apply to the seemingly most basic kind of rule, the one that involves only the repetition of the same *ad infinitum*. And if intuition *here* were to function as a kind of inner voice, then it would apparently be possible here too that it might mislead. To block this conclusion, the interlocutor now envisages a kind of absolute givenness of identity in the form of the self-identity of the same (gleich) in its indefinite repetition:

> 215. But isn't at least the same *the same*?
>
> For identity we seem to have an infallible paradigm: namely, in the identity of a thing with itself. I feel like saying: "Here at any rate there can't be different interpretations. If someone sees a thing, he sees identity too."

Wittgenstein's critical response comes swiftly:

> Then are two things the same when they are what *one* thing is? And how am I to apply what the one thing shows me to the case of two things?

> 216. "A thing is identical with itself." -- There is no finer example of a useless sentence, which nevertheless is connected with a certain play of the imagination. It is as if in our imagination we put a thing into its own shape and saw that it fitted.

If the idea of a things self-identity is empty in this way, then it cannot be used positively to undergird the conception of the underlying possibility of the repetition of a rule according to which this repetition is itself that of a self-similar item *ad infinitum*. Neither can, for the same reason, the assumption of the iterated intuition of a directive, or indeed, and again for the same reason, of a "decision" made anew in each case.[15] In the Kantian jargon, neither the receptivity of a subject in the pure intuition that it gives to itself in submitting itself to the rule, nor its spontaneity in the "decision" that would consist in each case, in the self-giving, can ultimately account for what it is to be "able" follow the rule "correctly" or to know, grasp, or understand it. For neither the spontaneous self-giving of the rule in finite form at each step, nor one's receptive relation to it (assumed as given) can succeed in overcoming the radical aporia of finitude and infinitude that stands at the center of the very conception of rules as regular structures of the infinite repetition of the same. Failing in the attempt to account for the development of the rule in either of these ways, the conception finally attempts to base itself in the idea of an "infallible" and absolute paradigm for this infinite repetition in self-identity. But this final attempt, too, fails in that the self-identity of the same does not and cannot provide a paradigm for anything; all it can do is serve to indicate a more original question about the basis of identity itself.

If the ability to "go on" in following a finitely specifiable rule in an infinite number of cases is not to be seen as a case of the rule "determining" all of its instances, in the manner of "rails laid to infinity", then how can it be positively understood? As Wittgenstein emphasizes, the positive attainment of the grasp of "how" to go on – which may indeed come "all at once" – has positive criteria in the actual circumstances, for example of teaching and learning, whereby this grasp is attained. These criteria extend to characterize the very possibility of our "access" to the infinite as such (which is, of course, not here in doubt):

> 208…How do I explain the meaning of "regular", "uniform," "same" to anyone? – I'll explain these words to someone who, say, speaks only French by means of the corresponding French words But if a person has not yet got the *concepts*, I'll teach him to use the words by means of *examples* and *exercises*…Imagine witnessing such teaching. None of the words would be explained by means of itself; there would be no logical circle.

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[15] Cf. PI 186: "What you are saying, then, comes to this: a new insight – intuition – is needed at every step to carry out the order '+n' correctly." -- To carry it out correctly! How is it decided what is the right step to take at any particular point? -- "The right step is the one that is in accordance with the order – as it was *meant.*" -- So when you gave the order '+2', you meant that he was to write 1002 after 1000 – and did you then also mean that he should write 1868 after 100036 after 100034, and so on – an infinite number of such sentences? -- "No; what I meant was, that he should write the next but one number after *every* number that he wrote; and from this, stage by stage, all those sentences follow." -- But that is just what is in question: what, at any stage, does follow from that sentence. Or, again, what at any stage we are to call "being in accordance" with it (and with how you then *meant* it—whatever your meaning might have consisted in). It would almost be more correct say, not that an intuition was needed at every point, but that a new decision was needed at every point.

> The expressions "and so on", "and so on *ad infinitum*", are also explained in this teaching. A gesture, among other things, might serve this purpose. The gesture that means "go on like this" or "and so on" has a function comparable to that of pointing to an object or a place.
>
> A distinction is to be drawn between the "and so on" which is and the "and so on" which is *not* an abbreviated notation. "And so on *ad inf.*" is *not* an abbreviated notation. The fact that we cannot write down all the digits of **π** is not a human shortcoming, as mathematicians sometimes think.
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> Teaching which is not meant to apply to anything but the examples given is different from that which "points beyond" them.

The kind of teaching and learning that makes the infinite accessible as such to understanding, though it proceeds by means of examples, is not of the kind that limits itself to the examples given. Rather, it involves essentially the possible provision of a kind of gesture which, in the context, may have the significance of a "pointing beyond" the given examples "to" the infinite continuation as such. To say that any possible givenness of the infinite as such must consist in this kind of gesture is not, any longer, to oppose to our "humanly" limited powers of completing a rule infinite in itself, but only partially completeable *by us*, to the ideal or pure understanding of a cognition (perhaps a divine one) capable of being given the infinite totality of the rule's instances *all at once* and in full, infinite detail. It is to insist upon the fundamental and basic form "of" finitude that characterizes any givenness as such. It is characteristic of this givenness that it occurs in finite time, but also that it may, in the context of learning and teaching, involve the provision of a gesture that, as Wittgenstein says, "points beyond" any given finite set of examples. This pointing is the formal indication by which the finite forms of teaching and learning gesture toward the constitutive idea and underlying structural reality of an "outside" to the finite in general, or "to" the unlimited (*ad infinitum*) as such.

If any account of the actual basis of the "infinite" understanding of how to go on in terms of the provision to consciousness (whether from within or without) of a symbolic expression of a rule or any finite item must fail (on pain of Wittgenstein's paradox at PI 201), then Kant's schematism as the representation of a rule for subsumption must, in general, fail for the same reason. For if it is the finite representation of the rule that is supposed to account for how a concept can be applied in an indefinite number of cases, then there inevitably arises the question, which Wittgenstein pushes, whether this rule itself needs to be interpreted (by a further rule) in order to be applied correctly in each case. Of course, Kant does not raise the question of whether the schematism of a concept can be *mis*applied, or applied in a misleading or incorrect way. But it is the effect of his way of considering the possibility of subsumption to be given to the subject by means of the provision of the "representation of the rule" that the schematism is that this question is unavoidable. Once we pose it, along with Wittgenstein, it is no longer possible simply to assume the guaranteed correspondence of the "I can" of subjective schematization with the order of things as they are (even if this be, explicitly, the order of things as appearances and not things in themselves). The problem is already there in the case of the empirical concept, where the task of the schematism is to provide an "image" for the concept that is sufficiently "homogenous" with the appearance for it to be placed under it. Already here, as Wittgenstein's argument suggests, the supposed visual or pictorial "homogeneity" would also, given the picture, stand in need of further criteria of resemblance, similarity or identity that no image by itself can yield. But the

difficulty is sharpened, and its underlying form is more clearly in view, in the case of what Kant already sees as the general transcendental form of time, the transcendental schema of the pure concept, which can have no image and can "never be met with in any intuition." (A 137-139/B 176-178). For here, the representation of the rule which amounts to the "transcendental determination of time" is both sufficiently "homogenous with the category" as to be universal and determined *a priori*. But it is also just as much "homogenous with appearance" in that it is contained in "every empirical representation of the manifold" as the form of inner sense. This is what leads Kant to propose that the transcendental schematism of the category must be simultaneously both intellectual and sensible, and to propose further that in occupying this paradoxical position it gives an ultimate basis to any and all determination of time. (A 145/B 184).

The adherent to this Kantian view of the possible origin of time has something in common with the interlocutory voice that proposes, at PI 215, the "sameness" of the same as an ultimate basis for the possibility of applying a rule. In particular, both presuppose a kind of automaticity of the rule in its self-identical repetition unto the infinite. On this kind of view, it is the rule *itself* that determines its own infinite application, and the determination of each new case is a kind of repetition of the "same" application of a self-same structure or item. The capacity or power of an agent to "apply" the rule across an (in-principle) infinite number of cases is then understood simply in terms of her representation or conscious grasp of that item, which is able to underlie all of the (infinitely many) cases all by itself. It is this automaticity that figures, on Kant's official view, in the way that the transcendental schema can itself serve as a kind of "pure image" for time, for example in the case of the schematism of substance, which represents an underlying pure image of permanence. In both cases, the medium of the possibility of the indefinite homogenous extension must be assumed to lie in the capacity of a finite subject of representation actually to produce or perceive the finite (because finitely representable) structure that actually underlies, in automatic fashion, the homogenous extension of the rule *ad infinitum*. But if, as Wittgenstein's critique suggests, it is incoherent to suppose that the finite representation of any rule can provide a determining basis for the "application" of concepts in this sense, then the Kantian picture of the representing subject as thus giving itself time, in auto-affective fashion, by both producing and receiving the representation of a rule must also be rejected.

Heidegger's own analysis of Kant, developed under the condition of his own radical questioning of the priority of the representing subject of consciousness, in fact suggests a partially parallel critique of Kant's picture of the underlying basis of time in the self-affecting capacities of such a subject. As we have seen, Heidegger locates essentially two paradoxes at the center of Kant's conception of time as given in the auto-affective power of a transcendental subject through the mediation of the schematism. The first is the paradox of spontaneity and receptivity: as giving itself time through the schematism which mediates as a third, common root between the faculties of the understanding and the sensibility, the pure activity of the subject in the self-giving of time must also be conceived, simultaneously, as a pure passivity with respect to what is thus given. Relatedly, there is a second paradox of constituting and constituted: the subject as such must be both capable of constituting time through this pure self-affection, and also capable of being constituted by it as the unity of transcendental apperception, which has the same form. These paradoxes are not resolved by the proposal of doubling the subject into a "transcendental" one which produces time and an "empirical" one which receives it. For even the "empirical" subject must be capable of thinking the categories, and applying them in judgment in such a

way as to produce empirical knowledge of objects. On Kant's account, to possess this capability just is to have access to the schematism which makes the application of the categories, in general, possible. But this access is the pure image of time with respect to which the subject is irreducibly both active and passive, both constituting and constituted. As Heidegger demonstrates, it is on the basis of this constituted/constituting structure that Kant originally thinks the finite structure of the subject as such, that is as the structure of that whose knowledge stands under the condition of being affected in intuition from a thinkable "outside" in general. But if the suggestion of Heidegger's reading is correct, the real temporal meaning of this structure cannot be found in the subjective and representational form in which Kant lodges it. For the assumption of a grounding of time in the (ambiguously active or passive) representational capacities of a subject set off against the world leads to the inevitability of the two paradoxes.

A merit of Heidegger's reading of Kant is that it shows how this structure of finitude, which is also at the root of Kant's specific conception of the specific distinction between the transcendental and the empirical, can in fact be read in broader terms that do not presuppose either this specific distinction or the distinction between appearances and things in themselves that it licenses in Kant. Thus, as we have seen, Heidegger's reading provides the terms with which it is possible to see the structure of "transcendence" that is indeed characteristic of our kind of being as determined more by the general formal/structural relationship between a limited "inside" and an "outside" in general than by any specific limitation on knowledge, experience, or cognition in general. On the picture Heidegger develops in *Being and Time*, in particular, the structural "transcendence" of Dasein is not to be understood in terms of any specifically "human" limitation or structure, but rather as the structural feature of Dasein whereby it is always already in relationship to such a general outside; this is a basic feature of the general structure of its "being-in." This conception of transcendence has in view much more what Heidegger calls the "transcendence of the world" which, as he argues in *Being and Time*, must precondition any possible givenness of entities (whether as present-to-hand or simply as ready-at-hand in everyday circumspective activity) than it does the transcendence of any particular capacities or limits of the human subject.[16]

In this it is different from Kant's conception, although Heidegger can also suggest that it is at the actually deeper ontological/structural basis of Kant's own picture of the human subject as structurally limited by the forms of its possible knowledge in thus being set off against a realm of unknowable things in themselves. But another result of this suggestion, as we have seen, is that it allows the formal structure of the being of Dasein to be illuminated in a way that is rooted in the constitutive idea of the finite itself, as opposed to any specific determination of it in terms of specifically finite powers, capacities, and the like. Constitutive finitude, in this more "original" sense, is no longer thought by contrast with a supposed infinite intellect which would be capable, as Kant suggests, of an intellectual intuition that could immediately create its object (or indeed, would always already have done so). That is because here the problematic is no longer that of the situation of a kind of being conditioned by certain fixed or static forms of knowledge relative to a being that is not limited in this sense, but rather of the constitutive distinction between the finite and the infinite itself: not, therefore, of an ontic boundary

[16] Cf S&Z, p. 364.

between two regions of beings, but rather of the finite/infinite form of the "relationship" (which is, of course, no "relationship") between beings and Being. Within the problematic thus specified, the question of the constitutive forms of the *possibility* of access to anything like the infinite as such, including the problematic of the "open" horizon by means of which finitude communicates with the infinite in general, becomes particularly significant. For this reason, the kind of limit that matters for the specific consideration of transcendence is no longer the limit of the finite power or capacities of any particularly constituted being, but rather the limit *between* the finite and the infinite which makes Dasein (as ontico-ontological) both constitutively finite (in one way) and *thereby* "infinite" (in another). It is rather here to be formally/hermeneutically illuminated from within, not in terms of a being that just is limited, but as the specific structure *of* limitation or of the limit *as such* which structurally conditions, in Dasein, both the necessity of being affected "from outside" in general and *also* the possibility of its projecting (infinite) sense.

This illumination extends to the illumination of the original structure of given time. If Heidegger is right in his reading of Kant, it cannot be the case that time is produced through the constitutive capacities of a representational subject. But of course, Heidegger is not *simply* critical of Kant; rather, he sees Kant's conception of time as pure auto-affection as pointing, in a radical fashion unprecedented in the tradition hitherto, at least since Aristotle, to the original connection of Being and time themselves. If this connection is to be illuminated on the basis of a consideration of the finitude and structure of Dasein, it must be possible to develop the implications of this structure of auto-affection, even *outside* the context of the assumption of a rooting of time in the activity of the subject or in its ability to represent a rule. The illumination will thereby shed light on the basic *ontic-ontological* structure whereby there "is" something like time in general. Here, we are accordingly looking for this structure as the formally underlying structural basis for the possibility that anything like time is given at all. The methodological basis for the illumination is *formal indication* within a hermeneutics of facticity.

What, then, remains of Kant's picture of the original givenness of time, if we purge it of the assumptions of its rootedness in the capacities of a representing subject but attempt nevertheless to retain its definitive connection to structural transcendence and to the finite/infinite problematic it involves? If we drop the constitutive assumptions of Kant's idea of the representational subject as conditioning all possible experience and objectivity, we cannot retain the figure, which is anyway paradoxical, of a subjective *activity* of auto-affection whereby the subject both gives itself time from itself and is first constituted by the very form of its being given from outside. Nevertheless, we can *retain* a formally/ontologically basic structure of *reflexivity* at the basic common root of givenness and time as such. This reflexivity is not to be understood as if it were the representation of a self to itself or as if it itself depended on a subject's self-reflection in thought or consciousness. It is, rather the formal/structural *condition of possibility* for any such self-relation.[17] It is also, and for this reason, the

[17] The language of "conditions of possibility" may admittedly mislead here, since what is at issue isn't a condition that precedes a phenomenon as possibility precedes actuality. It's rather a question of an underlying formal structure that is fully present, and fully actual (though not simply as "effective"), in the actual phenomenon as such. This is the sort of structure that Deleuze calls, in the course of a critique of the "transcendentalist" language of conditions of possibility, the "virtual". Among the merits of the employment of this kind of structure in the present context is, in fact, exactly that this employment does *not* presuppose a picture of possibilities (or anything

structural condition of any possible "transcendence" in the sense of the relationship of an interiority to an outside in general.

This formal reflexivity is not the outcome of any practice, activity, capacity or ability of Dasein, but is rather the structural basis for its ontic/ontological constitution, whereof its specific structural relationships to the possibility both of truth (as grounded ultimately in "its" world-disclosure) and of time (as the three ecstases). It is decisive in this respect to recall that Dasein is first *defined* reflexively and ontico-ontologically in terms of its constitutive concern for Being and hence for the kind of Being that it itself is. This constitutive concern is articulated, in Division I of *Being and Time*, as the structure of Care, and in Division II this articulation is recapitulated, on the specific basis of the problematic of the wholeness of Dasein, as its deeper "ontological meaning," which is shown to be time. At the basis of all of these analyses is the ontic-ontological structure of Dasein as something which already has, in its being, the positive characteristic of an understanding of something like Being. This reflexive structure formally conditions, on the level of the threefold structure of the question as such, the possibility of an explicit retrieval of the question of the sense of Being. It is in terms of the original formal/ontological structure reflexivity that both Dasein's own ontological structure, and the original constitution of time, are ultimately to be understood. In particular, it is the structural basis for the three ecstases of past, present and future, whereby temporality originally "temporalizes itself."

Understood this way, Dasein is nothing like an an individual agent of abilities or subject of capacities. It is, rather, the structurally necessary fixed point of the structural and reflexive "relationships" of Being and beings, "across" the ontological difference, that first "constitute" both sense and time as forms of givenness in that they constitute givenness itself. Such a structure is already implicitly visible as soon as it is seen that in the presence of any entity, its Being is in some way co-given. To grasp Dasein in this way is not (any longer) to grasp it as a specific position in a determinate given structure, but rather as the topological/structural precondition for there "being" anything like presence as such, at first or at all. Since the ontological difference is no relation between beings, it is not possible to understand this structural fied point as the causal (or any other) result of entities or of any aspect of their contingent constitution or arrangement. Nevertheless, its structure is tractable in the explicit formal/hermeneutic retrieval of the ontological basis of the factical givenness of sense and time.

Formally speaking, there is a basic relationship between reflexivity and the problematic of the finite and infinite. This is not simply because a relationship of self to self may be thought to produce the figure of a minimal circle which may then be thought of as repeating itself indefinitely, but rather, much more, because the assumption of the possibility of reflecting a determinate (hence limited) totality immediately raises the question of the basis of the possibility of the initial delimitation itself. The assumption of a stable outside position from which the totality can be reflected raises the question of the larger totality in which this outside position, too, is included, and the opposite assumption that the totality can be totally reflected from *within* raises the possibility of the internal iteration of this reflection *ad infinitum.* The problem is not simply an outcome of the assumption of something like a distinction between the "immanent" and the "transcendent", but is rather at the formal basis of the

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else) as "transcendent" with respect to what they condition, but rather can be pursued in a purely "immanent" way.

problematic of transcendence itself. This is the original problem of delimitation between a (thereby "finite") "inside" and an "outside" in general, and as such always already involves the problematic of the finite and the infinite. It appears whenever the possibility of thought, language, or knowledge is understood as *given to* a life that is as such finite, but as nevertheless bearing (even if only "potentially") on an "outside" that is infinite in itself. As I have argued in *The Politics of Logic*, this problematic, although implicit in philosophical thinking about totality and being since Parmenides, is put on a new and clarified foundation through Cantor's development of set theory, which in particular provides the rigorous conditions in which the constitutive paradoxes of totality and reflexivity can be formally displayed. In particular, this development shows that any figure of the relationship of thought to the infinite totality of the thinkable, or to the totality of beings as such, induces the paradoxical structure of limit-paradoxes or inclosures, to which the various figures of the relationship of thought to the ontic totality (which I have elsewhere treated as the four orientations of thought) emerge as possible responses.

Each of the four orientations involves a specific conception of the infinite, and the specific conception thereby involved articulates a specific figure of the givenness of the world. Even where, as in Kant's own discussion in the cosmological antinomies, the existence of the world as a coherent object of thought or knowledge is simply denied in favor of the thought of an unlimited potential-infinite synthesis which is, however, never completed, the infinity of the world appears in a specific figure and according to a specific formal idea (here, that of the "potential" infinity whose development is unlimited, but always occurring in time). These relationships of thought, or its located position, to the totality of the thinkable are, just as such, figures of the relationship of finitude to its structurally possible transcendence "toward" a world in general. But as four structural figures of this relationship they are also four figures of the givenness of the thinkable time of the world as such. As such they are also orientations that unfold the determinate configurations of the appearance, in what is here contemplated as the relationship of thought to the world in general, of what is itself without figure, the ontological difference between Being and beings. They compose and decompose the conditions of this figuration itself, according to the underlying constitutive ideas of consistency and completenesss, as the original metalogical problematic of transcendence formally/structurally indicated in the temporal form of a "finite" life.

In particular: the *onto-theological* orientation determines thinkable time as given on the basis of the absolute time of a super-being within which is lodged the power of an original creation, even *ex nihilo*; here, worldly time, whether limited or unlimited, is the time of an *ens creatum* secondary to and derivative of an original absolute, outside or beyond it. In the *constructivist* orientation (as, exactly, in Kant) thinkable time is thought as the outcome of the determinate *activity* of a self-positing agency, capable in itself of unlimited potential continuation, though never given or even possible as a constituted *completed* infinity. In the *generic* orientation, time is thought as the periodization or gap between the concrete events of the transformation of finite conditions of thinkability which laboriously construct the basis of constituted sense in progressive time, and the insistence of the "eternal" truths which draw them forth in accordance with the stringent law of procedural consistency. In the *paradoxico-critical* orientation, the infinite time of the world is originally given as the paradoxical structure of a reflexivity which is, with respect to the original metalogical structure of totality it involves, both a giving and a given, and therein stages the original structure of contradiction in relation to the

constitutive structure of limit-paradox. In relation to the underlying problem of a "becoming-unlimited" in which the character of change threatens, in and of itself, to outstrip all limits and manifest the contradictory in time, this can also be formally clarified, as we shall see in the subsequent chapters, as a basic structure of *becoming* in itself and as such.

As we have seen, Heidegger's reading of Kant in *Kant and the Problem of Metaphysics* drives toward an elucidation and development of the formal structure of finitude as the reflexive common root of time *and* Dasein, such that it can be suggested, at the outcome of the analysis, that in virtue of it Dasein is neither extra-temporal nor intra-temporal but originally *is* "so 'temporal' that it *is* time itself, and … only becomes possible, according to its ownmost essence, as time itself." If this suggestion is grasped in the context of Heidegger's own understanding of the structure of Dasein in relation to the transcendence of the world and brought to its natural conclusion, it is thus possible to think of the originally (and problematically) reflective structure of world-transcendence as the common, metaformally indicated ontic-ontological structural root of both Dasein and "its" time, and to envision a broader structural basis for both in that both are formally/constitutively linked to truth. It is then through this original ontic-ontological structure, and only on its basis, that time can be given as structured in any determinate way at all, including the way that it is given in the "inauthentic" temporality of the endless series of "nows". The formal structure of any givenness of time – including that which is given as this endless series of the constantly iterated "now" – is thereby referred back to the more basic structure of reflexivity and its relation to the ontological difference.

Further: If, as Heidegger suggests, the "objective" time of the world, such as it is presupposed in the mathematical natural sciences and employed in the "scientific" description of objects and events on a purely ontic level, is itself based in this image of time as the constantly unfolding series of nows, then the illumination of such an underlying formal structure, far from being opposed to a "realist" doctrine of world-time in this sense, is actually the positive ontological-hermeneutic precondition for such a doctrine. In particular, as Heidegger is at pains to point out in his reading of Kant, *this* image of time does not just come from nowhere, but also results from a particular interpretation of the being of the world and a particular schematization of the unfolding of being as time. Given Kant's underlying picture of the origin of time in the representing subject, he cannot but propose the ultimately incoherent idealist doctrine of a world-time that is itself created or produced, as if from "outside" time or the temporal, by the spontaneous-receptive and constituting-constituted activity of this subject.

If Heidegger's intention were only to replace this constituting/constituted subject with a structurally similar constituting/constituted Dasein as the ultimately substantial basis for the real constitution of world-time (albeit one now located "in" rather than (seemingly) "outside" time as with Kant) he would by no means have resolved the many temporal paradoxes involved in such an idealism. There would still be, for example, the question of how to conceive of the actuality of temporal events occurring before the empirical (intra-temporal) existence of a particular Dasein, or indeed before the existence of any Dasein at all.[18] And it would be similarly mysterious how the individual Dasein could i*tself,* by means of its production of its "own" time, succeed nevertheless in producing or even relating to a world-time that

[18] Quentin Meillassoux has recently resurrected this old problem as the problem of the "arche-fossil" and used it to raise a very broad critique of what he sees as a "correlationism" characteristic of much recent philosophy.

is binding and equivalent for *all* individuals as such. If, however, as Heidegger at least suggests, world-time has an original basis in a purely reflective ontic-ontological structure that is *also* at the formal basis of the very structural *possibility* of (any) Dasein, then there is no longer any obstacle to considering the "objective" world time that is based on the schematism of the constantly unfolding series of nows to be fully "real" as *one* possible manifestation of the character of the world itself. This would then be a time that could be seen as fully characteristic of objects, events and processes as they are discussed in the natural sciences, as "objective" and real occurrences and furthermore, as such, as inherently capable of mathematical measurement and treatment because of their own formal constitution. The point here would not be that this is the *only* possible schematization of world-time, or that it should, *contra* Heidegger, somehow be seen as the "actually" basic or ultimate one. But it would nevertheless be the case that its formal/structural connection to the possibility of counting and measuring itself would point to a certain relative priority, that in which the countable time "of the world" and the counting time of thought in relation to it are themselves formally/ontologically linked by a *common* formally indicated structural condition of possibility.

It is not clear that Heidegger sees this with full clarity, at least not the full scope of its implications, in *Being and Time* itself. There, as we have seen, the "world-time" of the abstract and unlimited succession of now-moments is understood as the outcome of what is essentially a *privation* of the more "original" ecstases, whose primary site is the individual Dasein in its structure of projection on possibilities, the final and highest of which is the individuating possibility of death. On Heidegger's official account, the possibility of this privation, and the specific kind of *infinitude* that it apparently produces as the endless form of the repetition of the "now", results from the modification of Dasein's original structural finitude, articulated by death, into the *publically available* world-time that then becomes known as the time wherein innerworldly entities are encountered. Through the modification, time gains a "public character" (or rather, as Heidegger says, has "already been given" one) through which "several people" can say "now" together; thereby it becomes, according to Heidegger, "the time with which "they" reckon." (411). In this sense, the regular world-time of the series of nows is ontologically understood on the basis of the specific structure of the public or of the "they" – Das Man – which is for Heidegger the mode of Dasein in its falling. Nevetheless, in the modification, the possibility of counting or measuring time by means of regular processes also has a basic significance: it is at first the observed regularity of the movements of the heavens (for "primitive Dasein") and later the availability of the clock that basically allows this general possibility of measurement (415). The use of the clock to "measure" time, as when we look to it to find out what time it is, as well as the possibility of measurement in general, is a constituted possibility that itself arises on the basis of original, ecstatic temporality, according to Heidegger, when "a standard which has presence is made present in a stretch which has presence." (417). Such a standard is one that must, in order to be useable, unchanging and permanently available as "present-at-hand" for everyone at any time. Through this constitution of the possibility of measurement, Heidegger suggests, the temporality that is originally "Dasein's" gains instead the character of a kind of time that is accessible, in principle and in general, to everyone, as a "*present-at-hand multiplicity of "nows*"."

The possibility of world-time as a constantly available stream of subsequent "nows" "available" for measuring and dating in general and to everyone is thus understood, on the analysis, as a determinate and privative modification of the original time that "is" Dasein's own. The specific modification is

understood as conditioned in a twofold way, both by the publicity of the "they" and by the factical existence of regular standards, such as the clock or (earlier) the fixed rotation of celestial bodies, which make the *measurability* of time as such possible. It is on the basis of this analysis that he can suggest that the "infinite" time of the indefinite succession of "now" moments, like any structure of the specifically infinite, must be produced out of the specific conditions of the individual Dasein's self-temporalization. But it can be objected that Heidegger does not clarify either the relationship between these two conditions or the ontological/temporal status of the *entities* (e.g. clocks, sundials, or originally the heavenly bodies) that also provide a basis for the "public" possibility of the measurement of time itself, on the account. In particular: the dating of things according to the motion of the heavenly bodies is such as to make possible a "publicly available" measure, in such a way that "everyone can 'reckon' on [it] simultaneously." (413) This is, in the first instance, a dating by means of the motions of objects in the heavens; as such it can be done "with one another" and for 'Everyman' "at any time" and "in the same way", insofar as we are with another 'under the same sky.'" Through this, "*along with the temporality of Dasein as thrown, abandoned to the 'world', and giving itself time, something like a 'clock' is also discovered – that is, something ready-to-hand which in its regular recurrence has become accessible*." Dasein's temporality is here both the "condition for the possibility that a clock is factically necessary" but *also* the condition of possibility for "its", i.e. the clock's, "discoverability." (413). Furthermore, the "natural" clock of the heavens further conditions the possibility of the measuring by means of "artificial" clocks which are a feature of more technologically advanced Dasein. In the regularity of this "natural" clock is to be found the basic regularity that conditions both the existence of the "artificial" clock and Dasein's ability to measure by means of it.

But then it must be asked how *this* accessible regularity of the original, "natural" clock is first constituted. On Heidegger's official account, it is itself constituted *by* Dasein (or Dasein's original temporality) and indeed *through and by means* of Dasein's actual activities of 'reckoning' with it. But it is then mysterious how the time of reckoning is here related to the time reckoned. If we consider this question in the light of the distinction between constituting and constituted time that Heidegger draws as the distinction between authentic and "vulgar" time, it appears to yield the paradox that the regularity of the movement of the heavens, must be ontologically subsequent to Dasein's "own" time, but is nevertheless as such available to "anyone" at "any time". The regularity of the original, "natural" clock" would then seem already to be able to serve as a standard in advance of any particular Dasein or Dasein in general, whereas (on Heidegger's account) this possibility of its serving as a standard is itself a constituted possibility of Dasein's "own" temporality itself. This raises not only the aporia of the pre-existence of countable, measured time in relation to objects and events taking place before the advent of any empirical Dasein, but (more deeply), how the "for everyone" and at "every time" of measured time is *itself* first given. Here, it is not sufficient simply to claim that it arises from a modification or development of the *individual* Dasein whereby it lives in the mode of falling which Heidegger elsewhere identifies with the "they-self". For if it were only this, it would remain mysterious *how* the regularity of natural time first becomes *available* to Dasein *in general* (or to "everyone") at all.

Neither aporia can be resolved, as long as the original basis of temporality is located in the structure of an *individual* Dasein as such. In fact, as consequences of the assumption that the original constitution of time is located "within" the finite individual as such, they simply replicate the paradoxes of constituting and constituted temporality that Heidegger finds in Kant's own account of the basis of time in the

schematism. As long as world-time is seen as rooted, in its original givenness, in the *capability* of an individual, itself located within time and set over against others similarly so located, to measure or count it, a structurally similar paradox of the counting and the counted will result. What remains, however, is the possibility of developing a more original and ontologically grounded conception of the original givenness of world-time that has, in itself, nothing to do with the capacities or powers of empirical individuals. Such a conception would develop the formal/structural conditions for the very possibility of *counting* time, both on the side of the being "able" to count and on the side of the original possibility of the *counted* as it is rooted in the original ideas of *number* (such as limit, finitude, and infinitude) themselves. Far from being completely opposed to Heidegger's thought about time, such a more structurally basic account is indeed suggested, as we have already seen, by the way that Heidegger himself radicalizes the Kantian idea of finitude in *Kant and the Problem of Metaphysics*. The hints that he gives there can moreover, as I have suggested, point formally to the problematic of the *original formal basis of number* that emerges here.

It is not disputed, in the present analysis, that the objectivity of clock-time can itself be related back to its more general "formal" condition of reflexive givenness. What is in question is simply the sense in which this more original condition can be said to *belong* to Dasein, or to be rooted *in* the individual Dasein as such. It is also not necessary to deny, as we have seen, the actual structure of the ecstases in which time "temporalizes itself," since these have, themselves, the formal structure of reflexivity which is, on this analysis, the deeper unified root of both a Dasein's "individual" time (if such there be) and the unified structure of world-time. In that sense as such is rooted in the (primarily futural) projection of possibilities that itself suggests the basic structure of the ecstases, the preservation of this underlying structure even seems to be a necessary positive condition of possibility for a realist account of sense. What is apparently to be denied, or at least questioned, is just the particular claim that such possibilities as can stand at the basis of any possible givenness of time, such as the one that is officially produced as world-time under the privative condition of the "publicity" of the constitution of the fixed and present-at-hand series of nows, must originally be "mine".

What, then, of death, which familiarly is, for Heidegger in Being and Time, the "highest ownmost" possibility of the individual Dasein, and which officially defines the original structure of finitude in which all of "Dasein's temporality" must be rooted? Without disputing that there is a specific conception of finitude that comes to light here and which is indeed indispensable in any ontological inquiry into time (indeed, the very conception that is developed in much more detail and with greater clarity in the Kant book) it is nevertheless possible to raise questions about this priority of death in its relation to *any* possible constitution of time, as it is described in *Being and Time*. As we have seen, Heidegger's critique of Kant in *Kant and the Problem of Metaphysics* ultimately provides grounds for disputing any conception of the givenness of time as rooted in the capacities of a subject capable of producing its specific unity in the scope of a subjective "I can"; these grounds are in fact brought out even more fully by considering the bases of Wittgenstein's critique of rule-following. On this basis, and applying the terms of this critique, now, to Heidegger's position in *Being and Time* itself, it is possible to ask whether the original givenness of time can really be grounded in anything like a capacity that is distinctively "mine" at all, even if it be the "highest ownmost" capacity of death. There is in fact an obvious and deep structural aporia that is involved in this characterization itself, whereby death is *simultaneously* "my" highest and most individuating possibility and also, as the condition of possibility of impossibility, the

one possibility "I" cannot attain.[19] The paradoxical dynamics of this aporia do not simply prove that death is not the ultimate possibility "for me" that Heidegger says it is, but they do suffice to permit the posing in a more original way of the question of the relationship of sense to the "finitude" of the original Dasein. If sense is to be accessible to me, it must be accessible in a way that is conditioned by this finitude. But this conditioning does not and cannot simply mean that it is limited by death; on the contrary, communication in general and writing in particular inherently involve, as Derrida has suggested, the structural iterability whereby a (written) communication is as such legible, even under the condition of the death of the author or her non-presence in general.[20] What is at issue here is really the distinction between possibilities "for me" and possibilities as such; and what is to be, at any rate, further clarified is the way that such inherent structural possibilities as the infinite iterability which appears to be a fundamental feature of anything like language as such articulate (already and as such) "possibilities" which are also evidently rooted in what must be seen as the more "basic" structures of (experienced or experiencable, but also "representable" or "measurable") time.

What is the form of such an investigation into the ultimate formal/structural conditions for the givenness of time in its essential nature, and by what means can it proceed? At PI 89, just after invoking Augustine's famous puzzle about the essence of time (that he seems to know what it is when nobody asks, but when he is asked, he does not know), Wittgenstein specifies this method as the "calling to mind" [besinnung] of what we in some sense already have lying before us, "open in plain view:"

> Something that one knows when nobody asks one, but no longer knows when one is asked to explain it, is something that has to be *called to mind*. (And it is obviously something which, for some reason, it is difficult to call to mind.)
>
> 90. We feel as if we had to *see right into* phenomena: yet our investigation is directed not towards *phenomena*, but rather, as one might say, towards the 'possibilities' of phenomena. What that means is that we call to mind the *kinds of statement* that we make about phenomena. So too, Augustine calls to mind the different statements that are made about the duration of events, about their being past, present, or future. (These are, of course, not *philosophical* statements about time, the past, the present and the future.)
>
> Our inquiry is therefore a grammatical one.

What is at issue in the context is the particular "depth" that appears to characterize logic as something "sublime", something that must be fixed in advance of any empirical investigation and must thereby be seen as capable of determining the possibilities of phenomena always already in advance. This character of "depth" has long been seen, in temporal terms or ones analogous to them, as that of the "a priori." The problem of the way in which it has been given to us, or the way it can be explicitly retrieved, is thus nothing other than the temporal problem of the *a proricity* of the *a priori* as such. The problem of the "knowledge" of the essence of time which is given to us as finite beings who themselves live and define the distinctive "possibilities" of their life in terms of the way time is given to them has itself long been thought (and is thought, also, by Augustine) as the problem of the "accessibility" of this a priori

[19] Cf. Derrida: "Awaiting (dying) –at the limits"; also Thomson: "Can I die?"
[20] Signature, Event, Context

within this empirical time of factical life and knowledge. Given the general form of this problem, Wittgenstein's choice of Augustine's question *about* the nature of time as an example that illustrates it is thus (though others might perhaps have been chosen) by no means adventitious. As the sort of question that one feels one can answer when nobody asks, but is unable to explain when it is asked, the form of Augustine's question is itself indicative of the problematic of the nature of given time which is its theme. This is the problematic of the recovery of the original structure of possibility from within the temporal life of a finite being conditioned by it.

In response to this linked problem of logic and time, Wittgenstein here suggests that clarity can result from the recollection or "calling to mind" [*Besinnung*] of what we (in some sense) already know – the kinds of *statements* we make – statements, for example, "about the duration of events and about their being in the past, present, or future." The suggestion invokes Augustine's own procedure, but in the context it may also be seen as evoking or resembling one of the original temporal figures of the specific character of rational knowledge in the Western tradition, namely Plato's invocation of *anamnesis* as the recollection, under the conditions of an embodied life, of what one already knows but has in some way, due to this embodiment, necessarily forgotten. The point of connection is not in any assumption that Wittgenstein shares with Plato of the necessary opposition of the sensible and embodied over against the supersensible and atemporal in itself, but in what it suggests about the temporal structure of an inquiry into the prior givenness of sense that has long figured, in the tradition, as the inquiry into the *a priori* order of possibilities fixed always already in advance.

The distinctive possibility and utility – for investigations of *this* sort (Wittgenstein says that what Augustine says about time could not be said about the answer to a question of natural science) – of this "calling to mind" what one (in some sense) already knows marks the form of an investigation arising not from an interest (as Wittgenstein says) in facts of nature or in the empirical itself, but "from an urge to understand the foundations, or essence, of everything empirical." Through such an investigation, Wittgenstein says, we cannot learn anything "new"; but we may nevertheless illuminate the original "grammatical" forms of the formal possibilities of sense that *can* be possibilities for us. These possibilities are not just "mine" or "ours"; they are, rather, as Wittgenstein says, the "possibilities" of the phenomena in themselves. Their "grammar" is not just the structure of this or that particular language, but it is the order of structural precedence that is first shown in our calling them to mind in the terms and forms in which they are (always already) open to language as such. This, among others, is the way in which "essence is expressed by grammar." Such an inquiry, bringing into view what is "in some sense" already known and reflectively giving me the form of "my" life, may thus indeed illuminate, Wittgenstein suggests, the specific question of time that puzzles Augustine; but as such, and in the same way, it also articulates *one* reflexive form (among others) of a factual/hermeneutic "inquiry" into the original essence of time itself.

IV

In its extended consideration of the implications of a recursive conception of the basis of the knowledge of language in the human mind, the analytic tradition, as we have seen, finally runs up against the phenomenon of a specific undecidability of sense; the structural implications of this undecdiability are such as to verify that the actual basis for the "use" of language in its application to the world can no longer be thought simply as the outcome of a corpus of internally represented rules opposed to the behavior of the individual thinking subject as "competence" is opposed to "performance." Although this may encourage the impression that the basis of productive sense must, if it cannot thus be located in the rule-governed competence of the individual, instead be located in the "publicity" or intersubjective repeatability of social practices, communities, or institutions, in fact the structurally underlying undecidability of sense that is thereby demonstrated (at the limit of any thinking of the subject in terms of capacities) points to a deeper and more original problem, one that can by no means (as we shall see in the next chapter) be handled in terms of the existence and assumed nature of the "social", "intersubjective" or "communal" either. The problem here, in fact, is not basically one of how meaningful language is produced, constituted or instituted in the intersubjective practices of a community, but rather one of how sense is originally given, such that anything like a language or a community of language-speakers *can* arise at all. As we have already seen in connection with the analysis of the implications of Davidson's and Tarski's conceptions of the relationship of sense and truth (chapter 3, above), this problem bears a distinctive relationship to the question of the structure of a predicative sentence wherein it is linked to the possibility of truth or falsehood. Just as deeply and centrally, however, it includes the question of how *objects* are first given (whether to "cognition", "knowledge", abstract thinking, or already in "simple" perception) as meaningful at all, such that they *can* figure as the subjects of successful (true or false) predication.

This involves the problem of the givenness of sense in a basic relationship with that of the underlying structure of judgment; and as we have seen, this is already enough to show how the problem of the givenness of sense is also a temporal one in that the predicative subsumption of objects under concepts already bears, as Heidegger's analysis persuasively demonstrates, an original and concealed relationship to time. Given this relationship, it is evidently no longer possible to think of the realm of sense itself, as Frege officially does, as a static or atemporal realm simply *outside* time and the temporal; rather when it is brought to light it becomes possible to ask how and on what kind of ontological basis temporality itself is structured in such a way as to make the "predicative" relationship between concepts and objects first possible. This relationship is moreover, in light of the inherent undecidability that is a necessary consequence of the ultimate development of the structural-recursive conception of sense, not to be thought as a simple matter of the application of rules to individuals already formed and pre-given in themselves, but must also be involved in a basic way in any identification of an individual as such. In this way, the problematic of an analysis originally dedicated, in its Fregean inception, to the description and ultimate clarification of the logical form of conceptual meaning as such is forced ultimately and unavoidably to confront the temporal problem of that givenness which makes any "conceptualization" of the world first possible. This is the problematic of the being of beings as it unfolds as time.

Some of the consequences of this confrontation, both positive and negative, are displayed by the argument and conclusions of Sebastian Rödl's recent, trenchant and far-reaching analysis of the relationship of judgment and time in his *Categories of the Temporal: An Inquiry into the Forms of the Finite Intellect*. Rödl's analysis, as a whole, aims to "identify" and "reveal [the] necessity" of the "logical

forms of temporal thought;" with this, he suggests, it is possible to illuminate the concept which is the "most fundamental" of philosophy but also one of the "most obscure," namely that of logical form itself. (p. 1). The forms that structure thought as inherently temporal are themselves inherent forms of the human intellect, according to Rödl, in that they necessarily characterize an intellect that "depends on the independent existence of the object of its thought and is in this sense *finite*." (p. 8) This is because, Rödl follows Kant in suggesting, by contrast with the "divine intellect" which is such as to be able to think what it thinks without its being given and thus "thinks the eternal," the necessity of the human intellect to relate to an externally given object means that it is necessarily temporal in the twofold sense that it both "thinks in time" and "thinks the temporal" as such. (p. 8).

According to Rödl, the analytic tradition has long been gripped with a dogma according to which all logic is, as such, the "general" or "formal" logic of deductive relations among already constituted thoughts. By contrast with this, the study of the structure of the finite intellect as characterized by its dependence on the externally given is the proper aim of a "transcendental logic" that does not attend primarily to the inferential relations of thoughts already constituted, but rather investigates the "forms thoughts exhibit *insofar as they relate to intuition*." (p. 8). This investigation is an investigation of the "power of thought, or, as Kant says, the understanding, or, as Frege says, the mind." (p. 21). More specifically, it is an investigation of the intellect as the "power" of what Rödl follows Evans in characterizing as *situational* thought," that is, thought that has bearing on its object by distinctively relating to sensory intuition (p. 64) and is thereby "essentially in time". In general, a situational thought is one that is thought in a way that depends on the time at which it is thought; although Evans developed the idea of situational thought primarily in relation to specifically *demonstrative* thought, Rödl argues that this time-dependence can be generalized to characterize *all* human thought on the basis of the Kantian claim that "thoughts without intuitions are empty." (p. 57) Because thought, in order to be contentful at all, is in this way dependent upon intuition, and intuition itself occurs in time, human thought is as such, according to Rödl, irreducibly situational and thus also irreducibly temporal, according to its very form.

Within the ambit of a "transcendental logic" that develops the general forms of predication, It is thus possible to describe the general temporal forms through which human thought, as thought relating necessarily to intuition, is possible at all. On Rödl's argument, there are the "most general forms of the finite intellect" insofar as the thought of such an intellect is temporal in two senses: both in that it thinks (of) temporal objects and in that it thinks of them *as* temporal and temporally extended (p. 10). These forms, as forms of predication but also as "forms of consciousness," fall under three headings: that of tense, that of aspect, and that of the "time-general" or "generic." Each of these forms characterizes the particular "way in which…subject and predicate" are joined in the structure of a thought exhibiting it. (p. 10). Through a variety of examples and critiques, Rödl argues convincingly that these transcendental/logical, or "grammatical" forms cannot, Rödl argues, be reduced to the sorts of relations of thoughts that can be displayed in the symbolism of a deductive calculus (for instance by the addition of indices to statements to indicate tense, or by the numerical indexing of moments). This is because, Rödl argues, the inherent temporal nature of thought does not appear perspicuously in the deductive relationships of thoughts to one another, but rather in the internal structure of each predicative thought by means of which it is constitutively dependent upon the (temporal) intuition of an object in such a way as to characterize the very form of predication that occurs in it. This implies that, if the actual logical

form of predication is to be displayed, it must be necessary to supplement the purely deductive logic dominant since Frege with a transcendental logic of temporal forms.

In fact, Rödl argues convincingly that the calculi of deductive logic characteristic of much analytic philosophy are not only incapable of adequately characterizing this formal temporal relationship of thought to its object, but must actually positively presuppose for their own intelligibility something like a transcendental logic in this sense. This is because, as Rödl argues, the positive identification of a *totality of thoughts*, such as is involved in the specific application of any deductive calculus, itself presupposes a prior understanding of how the objects of these thoughts are given and of how the boundaries of the relevant totality are thereby determined. In particular, Rödl argues that logic as Frege conceives it must presuppose this prior specification for at least two reasons. First, Frege requires that the quantifiers of a *Begriffsschrift* inherently express generality; as a matter of its actual logical form, the universal quantifier is in itself not marked as applying (only) to any particular range or type of objects. Rather, for Frege, the universal "All so-and-so" is in fact, in its logical structure, the universal quantifier combined with a particular predicate: "All x, if they are so-and-so…". This means, as Rödl says, that the fact that we can apply the logical calculus to any particular domains of objects at all cannot consist in or follow simply from the logical/deductive structure of the calculus itself; rather it is necessary, in considering the calculus to apply to *anything*, first to specify a domain if we are to "bring thoughts" about these objects "under its laws." To specify a domain in this sense is to specify a range of objects as given; and such a specification must be possible if the general calculus is to be capable of expressing any particular thoughts at all. But given Frege's commitments to the context principle, according to which objects are given *only* by means of predicative thought, and to the further assumption that *all* predicative thought is as such deductive, the basis of this specification must be mysterious. For if it cannot take place within the deductive calculus, it cannot, on these assumptions, take place as thought at all.

Secondly, and relatedly, as Rödl argues, the generality of a Fregean *Begriffsschrift* in its application to any domain implies (on certain Fregean assumptions about substitutability and the determinacy of truth) that any particular domain of objects in fact be treatable as always already part of a maximally *general* domain, the domain (so to speak) *of* (Fregean) objects as such. But this is the very idea that, Rödl argues, is responsible for the failure of the *Grundgesetze*, in the wake of Russell's paradox, to ground the givenness of numbers on that of the extensions of concepts. Frege's Basic Law V, in particular, implies that two concepts have the same value-range (extension) if they always assign the same truth value to every argument. But since, on Frege's assumptions, extensions are thus determined by the pattern of truth values that their correlative concepts assign to each object, and since (however) extensions are *themselves* objects, the "procedure" thereby specified for determining extensions must therefore be (viciously) circular. As a consequence, Rödl argues, Frege's argument does not succeed in showing how extensions are given; once again, this suggests that the order of predication, if understood only in terms of the deductive calculus, cannot fully account for the givenness of objects that it must in fact presuppose in each case of actual application.

In both cases, Rödl suggests, the answer is to break the link that Frege assumes between the deductive calculus and the form of predication as such. In particular, we can make the availability of domains of objects, which is necessarily presupposed in both cases, intelligible as an aspect of *predicative thought* if we relax the assumption that predicative thought is itself exhausted by its deductive structure. We can

do this, Rödl argues, if we allow that the predicative structure of thought is *also* characterized by the way it is necessarily also related to intuition, and thereby to the possible givenness of objects; and we can, further, make visible the form of this necessary relation by clarifying the inherently *temporal* forms of the thought of an inherently *finite* intellect.

Basing his analysis in substantial part on a detailed reading of Kant's First and Second Analogies of experience, Rödl argues that the temporal forms must be such as to make it possible for us, already in *perception*, to perceive events as temporally ordered and related to one another. On this basis, Rödl is able to criticize interpreters, such as Longuenesse and Guyer, who read Kant instead as proposing, with the First Analogy, a doctrine of how temporal relations that are not just given (on their reading) in passively received perceptions can subsequently be supplied by adding to these (supposedly) received perceptions a rule of succession, perhaps one stemming from a "transcendental synthesis" of the imagination. By contrast with these readings, Rödl argues that Kant holds that our very ability to perceive that things are simultaneous or successive with one another results from the way our perception of things as such already necessarily involves temporal forms of predication. In particular, according to the argument of the First Analogy as Rödl reads it, all appearances *as such* structurally include the contrast of enduring substance and its changeable determinations, for this contrast characterizes the predicative form of all empirical thought (pp. 117-118). Since, in perception, it is impossible to perceive time itself, the perception of temporal relations such as simultaneity and succession must involve the perception of these relations as involving changes of the state of an underlying substance (p. 119). In this way, substance itself is, for Kant as Rödl reads him, appears among the objects of perception. The necessity of its so appearing is a necessary outcome of its characterizing the underlying *logical form* characteristic of anything at all, insofar as it is "capable of figuring in temporal relations." (p. 124). This is one of the characteristic temporal forms, according to Rödl, of all human thought insofar as it bears on objects at all.

Rödl's arguments for the necessity of supplementing the familiar deductive calculi with something like a "transcendental logic" capable of addressing how objects are given in such a way as to be able to figure in discursive thought generally are, from the current perspective, well taken. As we have seen, indeed (in chapter 3, above), the unified hermeneutic position of an interpretation of the linguistic and worldly conditions of truth itself requires that the familiar logical/structural analyses of the Fregean or Tarskian/Davidsonian kind be supplemented with just such a "logical" (in an extended sense) account of the form of the givenness of things. The formal calculus of truth that Tarski bases on Frege's logical calculus indeed exhibits, as we saw there, characteristic limitations just where Rödl says Frege's system does: with respect to the apparent necessity of a pre-specification of domains in able to make the calculus applicable at all, and with respect to the paradoxes inherently arising from any characterization of the calculus as bearing, in and of itself, on the *total* domain of all objects. These limitations themselves suggest the possibility and trenchancy, as we also saw there, of an account of (what I there called) "transcendental" truth, over and above the Tarskian deductive/calculative truth-theories for particular languages, and addressing the question of how the objects of primitive terms are, most basically, supplied. Rödl is also right to treat this supplementation as a necessary component of any comprehensive characterization of the conditions for the possibility of linguistic predication, and so to characterize "transcendental" logic (in his sense) as capable of contributing, just as much as do the familiar deductive calculi, to the characterization of the "logical form" of *possible* predication itself.

Conceived in this way, the supplementation of the formal/deductively characterized languages with an account of the availability of objects to them is a necessary component of anything that could rightly be called a comprehensive account of the nature of *sense* at all. And because the problematic of sense is, since Frege, the problematic of modes of presentation – or of the conditions under which anything can be presented in general, in such a way as to figure as an object of judgments capable of being true or false – it is not only cogent but also necessary, as we have seen, to intimate or suspect a necessary relationship of this supplementary logic with the problematic of time, insofar as (and because) *this* problem is that of the ontological/temporal basis of presence and presentation in general.

In each of these ways, an "ontological" development of the interlinked problematics of truth and time can sympathize with Rödl's call for a "transcendental" logic of temporal forms to supplement the usual "deductive" logics, which, since Frege, have often declared or assumed their own proper topic and direct basis to be simply timeless or extra-temporal. But an ontologically decisive question is nevertheless posed if we ask what these temporal forms are, in fact, forms *of*. Rödl himself characterizes them in various ways: often as "forms of predication," but also as "forms of temporal consciousness" or of "thought" (full stop) or again (as in the subtitle of the book) as "forms of the finite intellect." Officially and most generally, they are the forms that must necessarily characterize any thought that is "dependent" on receptive intuition in order to have content (or not to be, in Kant's metaphor, "empty"), or any intellect that "depends on its being given an object through the senses." (p. 57). On Rödl's telling, our intellect is one such because of its essential finitude, which is evident in the way human thought, in order to have content, must be given an object through intuition. Here, the decisive difference is (as we have seen) the one between human thought that is conditioned in this way and the divide intellect, which is capable of a purely generative intuition. Since it is not capable of such an intuition, the human (or finite) intellect "depends on its being given an object through the senses."[21] What Evans calls "demonstrative" thoughts – thoughts whose having involves the presence of some object before one (e.g. the thought "This pepper is red") and are without content if the demonstrated object is *not* present – serve Rödl as a *general* model for what he calls "situational" thought overall. And on his argument, it is because our predicative thought *in general* is situational in this sense that it is essentially temporal. The temporal forms of predication, which Rödl claims to discover, spell out this essentially temporal form of thought insofar as it is involved in the forms of predicative judgment in general.

As a preliminary to raising deeper questions here, it is worth noticing that there could not in fact be, for Kant, "categories of the temporal," in Rödl's sense. For while, on the one hand, what *Kant* calls the "categories" are officially derived from the (predicative) forms of possible judgments, Kant himself treats the way in which experience and thought are temporally shape most directly through his discussion of what are not (for him) *categories* of thought or predicative form, but (precisely) *analogies* of experience. An analogy in this sense is a "rule according to which a unity of experience may arise from perception" (A 180/B 222); its basic "principle" is to provide for the possibility of experience by accounting for the representation of a "necessary connection of perceptions" in the experience of temporal relations. Rödl is right to emphasize that the time relations thereby introduced among

[21] P. 57.

appearances already characterize perception, as a basic condition of their possibility; but they do not do so, as he maintains, as *predicative* forms of judgment but rather as rules preconditioning the possible unity of experience as such. According to Kant, such a rule is also not *constitutive* of appearances, but only *regulative* with respect to their unification into a single time-order (A 180/B 122). The kind of unity that an analogy of experience introduces as the temporal order of appearances (ordering them in relations of duration, succession, and coexistence) is further dependent, according to Kant, on the transcendental unity of apperception and its own relation to the temporal form of inner sense, whereby perception is unified at *every* moment of time. (A 177/B 220). Furthermore, since they function as regulative rules with respect to appearances in this sense (rather than constitutive rules of appearances *or* rules applying to things in themselves in any sense), the application of the analogies to appearances does not amount to their being subsumed under categories, but rather only under their schemata. This is why these principles are themselves ultimately not categories, but rather analogies, for by them:

> …we are justified in combining appearances only according to what is no more than an analogy with the logical and universal unity of concepts. In the principle itself we do indeed make use of the category, but in applying it to appearances we substitute for it its schema as the key to its employment, or rather set it alongside the category, as its restricting condition, and as being what may be called its formula. (A 181/B 224).

For this reason, the analogies of experience themselves involve, in their unifying application to experience to produce a unified time-order, all of the essential questions about time, unity, and synthesis that Heidegger raises in his own interrogation of the schematism as the outcome of the mysterious power of transcendental imagination and its twofold connection to the transcendental unity of apperception and the temporal form of inner and outer sense. As Kant indicates here, these problems are not those of the logical unity of concepts or of predicative judgments; they are at best analogous to them, and the analogy proceeds necessarily through the difficult topic of the temporal status of the schematism itself in its connection with the underlying (and problematic, as we have seen) temporal unity of the "I think" of transcendental apperception.

Now, it is striking that Rödl, despite the far range of his discussion and his general dependence on Kant, nowhere discusses the schematism or the temporal questions it raises. For this reason, he does not consider the problematic form of the third power or faculty of transcendental imagination, which as the obscure "common root" of the receptivity of intuition and the spontaneity of understanding must apparently, as Heidegger argues, yield the most basic form of time (as pure auto-affection). Instead, Rödl considers the basis of the necessary temporal form of thought (or perhaps of consciousness) to be exhausted by the consideration that discursive thought, in order to have empirical content at all, must be supplied by the intuition with an object on which it bears. It is this consideration that, further, allows Rödl to portray the intellect that is thus conditioned as irreducibly a power of "situational" thought, in that its thought is always (on this reading) dependent on its being affected by an object *at a time* and is thus itself essentially temporal. It is on this basis that Rödl what are for him the possible forms of "temporal" predication. But even for Kant himself, it is not the case that *every* possible thought essentially involves one's being affected by an intratemporal object at a particular time. There are, for example, pure geometric and other mathematical thoughts, which although they certainly involve intuition, depend on what Kant calls a "formal intuition," which, as the intuition of a form of sense (time

or space) is not the intuition of something existing *in* time. Synthetic a priori knowledge in *general*, as knowledge arising from the pure categories, also does not depend on the givenness of a particular intratemporal object in this way either. And there are also, of course, *analytic* thoughts determined only by the principle of noncontradiction, which in its thinkable extension beyond appearances must not depend on intuitive givenness at all.[22] Kant's remark that "thought without intuition is empty" must not extend so far as to exclude these kinds of thoughts or the possibility that they have (thinkable, or even in some cases knowable) content. And if these kinds of thoughts can and must indeed be taken seriously as having content in that they are capable of truth or falsehood, it follows that what Rödl calls "situational" thought cannot characterize the general structure of the finite intellect, insofar as it is capable of thinking judgments that are true or false at all. Rather, the feature of situational, temporal dependence that Rödl generalizes from Evans' account of specifically demonstrative thoughts must be a feature of, at most, *some* of its thoughts. But if the temporal structure of situational thought does not characterize the structure of the thought of the finite intellect as such, then it is also a mistake to suppose that a clarification of this temporal structure can provide the basis for clarifying the temporal nature of thought in general.

This points to a deeper and more general limitation of Rödl's account with respect to the underlying ontological/temporal issues at stake here. For Rödl, the claim that finite thought is irreducibly temporal turns (in the first and "fundamental" instance) on the thought that it is irreducibly situational: this means that it takes place *in* time in such a way as to be able to "use" the time it takes place in to specify its content, in a way analogous to that in which a demonstrative thought "uses" the presence of its object. Rödl attempts to derive from this, as we have seen, what he treats as the general forms of temporal predication that, for him, characterize the form of all possible finite thought. But in so doing, he must evidently and in an obvious sense *presuppose* the "external" existence of an ordered time *within* which, as he says, situational thought first "takes place." It is only by presupposing this, in particular, that it is cogent to hold that an empirical thought can gain (an aspect of) its content by means of its being affected *at a time* by a particular object, or that the structure in virtue of which it gains its content in this way can be characterized as a general formal one. But if the structure of such an exterior time is thus presupposed by Rödl's account of temporal forms, it is not explained by it, on pain of (vicious) circularity. Even if we grant Rödl the premise that *all* thought of an intellect so situated is "situational" in his sense, therefore, it must be said that his analysis has not explained or clarified the constitution of time itself, but only the possibility that the *thoughts* of a certain kind of thinking, situated being are related to time in a particular way.[23] This is not necessarily an objection, since it is not clear that Rödl intends to account for any more than this; in particular, it is not clear that his inquiry, which avowedly and officially has the topic of the temporal "forms of the finite *intellect*" has the ambition of

[22] It is telling in relation to this that in a brief discussion of the principle of noncontradiction (pp. 98-99), Rodl affirms, quoting Kant's earlier position in the inaugural dissertation but ignoring his reversal of this position in the *Critique of Pure Reason* itself, that the law of noncontradiction involves that "the same thing cannot be true and not true of the same thing *at the same time*" and thus that it can only be applied to two thoughts "only after we have made sure that the thoughts in question do not differ with regard to time." (p. 99)

[23] Analogously, Evans' account of demonstrative thoughts attempts only to explain how certain thoughts that can be formulated by thinkers situated in space and time gain content by virtue of the presence of the objects to which they refer; it does not explain or attempt to explain the basis of the possibility that these objects and thinkers are situated in space or time to begin with.

explaining or clarifying how something like "objective" time first arises at all. On the other hand, if it is indeed possible simply to *assume* a unitary time of objects at the advance of the explanation, as Rödl apparently must, then most of the explanatory apparatus which he deploys in his analysis of temporal forms, along the lines suggested by Kant, is idle. For instance, if it can be presupposed that temporal relations are already objective features of the world, prior to any consideration of the activity of a thinking intellect or a subject as such, and can thus be directly given in perception, then there is no need to explain how these relations are necessarily induced by the satisfaction of conditions on the possible unity of *experience* in general.

It is no answer to this to hold, as Kant himself might, that whereas the kind of situatedness in time that is relevant to the analysis of the temporal forms of judgment is empirical, the kind which is at issue in the explanation of the perception of succession is transcendental. For if the two kinds of situatedness are distinguished in this way, then the explanation which bases itself on the first simply does not carry over to the second. It can be, in particular, no part of an answer to the question of how temporal relations (of simultaneity, precedence, and succession) are first constituted to refer to the fact that *as* empirical objects (i.e. appearances) we ourselves stand in these relations with other intratemporal things. This is presumably why Kant, by contrast with Rödl, does not base his analysis of temporal forms ultimately on the fact or form or "situatedness", but rather on the *transcendental* powers of unification exercised by an intellect whose own characteristic form of unity is neither intra-temporal nor predicative, but rather the transcendental unity of apperception that both presupposes and synthesizes the endurance of time in the schematism of the pure category of substance. Of a subject endowed with such a power, it can indeed be rightly said that it constitutes (in a certain sense of "constitution") not only the experience or thought of time, but indeed "objective" time itself. But (besides apparently resting on a conception of the transcendental as the simply extra-temporal which has little evident motivation) the price of this solution is, as Heidegger shows, the essential paradox of the "transcendental" activity of an auto-affecting subjectivity which, in giving itself time in a way that is both pure activity and pure passivity, can no longer be said to be simply "in" time *or* "outside" it.

More generally, as we have seen, the paradoxical situation that here arises can be seen as pointing to the ultimate limits of any conception of the basis of time or the possibility of temporal thought as resting in the synthetic *capacities* or *powers* of what is specifiable as a "finite" subject at all. For if, as Heidegger shows with respect to Kant, the "power" at the basis of the constitution of time must be that of a self-affection with respect to which the subject is, as such, just as much receptive with respect to the given as it is spontaneous with respect to the giving, then the structure of this self-giving can no longer be thought simply as the "I can" of a power of unification, binding or synthesis of previously given elements. For the concept of any such power is that of its possible application in the production of a unity of what is in itself not unified, and this concept itself implies a temporal order of precedence between the (prior) givenness of the elements in themselves and the (subsequent) production of their unity. Since *this* temporal order must be presupposed in the very idea of the capacity to synthesize, it cannot be explained by means of it. This is why, as Heidegger suggests, Kant's conception of an obscure transcendental power of the imagination at the root of all possible synthesis in general or of the recognitional form that is its general form ultimately runs up against the constitutive paradox of passive/active auto-affection; it is also why, as we have seen, Heidegger suggests that that this paradoxical reflexive form points to a structural radicalization of the idea of "transcendence" itself that

no longer sees the constitution of time as resulting from the synthetic activity of an intellect or subject in general. More generally, if this structure of temporal precedence is indeed involved in the very idea of the productive or constitutive capacity of a "finite" subject as such, any account that attempts to solve the problem of the givenness of time by reference to such a capacity will fail.

Rödl's account of the "power" of situational thought is evidently one such account, and it in fact mobilizes a broader idea of the basis of givenness in the constitutive capacities of a thinking subject – what might indeed be called the idea of a *transcendental* subjectivism -- that has a wider provenance in contemporary discussions.[24] But even if such an account in terms of the capacities of the subject could somehow escape the aporias of receptive/spontaneous self-affection that we have discussed, it would still be inadequate to account for the givenness of time (or, for that matter, to account for senses as the modes of givenness of objects) in realist terms. For the talk of a ground of givenness in the capacities of a subject presupposes, in an obvious way, the existence of the subject itself, as well as the possibility that the subject indeed exists, but (for whatever reason) does not exercise her capacities in this regard. It cannot, therefore, explain the possibility of a givenness of time or sense that precedes (in empirical time) the existence of any subject; and for the same reason, neither does it account for the possibility that the time that is given to *one* (individual) subject is also ("simultaneously," as it were) given as "world-time" to *all* others as well. More generally, if the category of "the subject" of capacities and activities is to have any application at all to the problem of the givenness of time, it must for this reason function as a kind of inherently paradoxical *singulare tantum* which, as necessarily existent and active, corresponds neither to any individual subject or plurality thereof nor to any existence that is simply and without further complications *in* objective time. As we have seen, it is the singular merit of Heidegger's radicalizing interpretation of Kant's subjectivist conception of the basis of time that, despite some residual admixtures of the old concept of the finite subject that are not (yet) fully overcome in Heidegger's *Being and Time* conception of the temporal structure of Dasein, suggests terms and structures by means of which it becomes coherent to think world-time as realist in this sense while nevertheless not denying the obvious intratemporality of the being that thinks it.

If the origin of the temporal bearing of thought on its objects cannot, for all of these reasons, be attributed to the predicative form of the subjective binding of "subject and predicate" wherein Rödl (partially following Kant) situates it, it nevertheless remains possible that the form of time is constitutively linked to predicative, linguistic truth in a broader and structurally different way. In particular, it is relevant to consider here the quite different mode of "combination" into the unity of a predicative sentence that Frege theorizes as the unity of function and object in producing what he terms a "thought" which is (definitively) true or false. By contrast with the Kantian synthetic conception, this is explicitly and essentially a kind of unity that does not depend on the synthetic activity of a subject or on any "process" of combination at all; indeed, it is in reality no *combination* at all but rather simply the regular relationship of objects and concepts to truth-values by means of (what Frege considers to be) a

[24] For instance, it is a *leitmotif* of John McDowell's attempt, in *Mind and World*, to account for our perceptual openness to a world that is also thinkable as such that the receptive "capacities" we "draw on" in perception are the same as (or "not even notionally distinct from") the spontaneous ones we "draw on" in thought. I believe McDowell's picture here could thus be criticized along substantially the lines sketched in this paragraph, though I do not attempt to develop this specific criticism here.

rule. The specific unity of the thought is again here not to be understood simply as the aggregation or combination of separately given elements, but as (in accordance with the context principle) the distinctive compositional unity that connects the thought to its truth value by determining it as its reference. This constitutive connection with truth-values is what verifies, for Frege, that the thought can have a content that is quite independent of any subjective (or any other temporal) activity, and thus licenses his criticism of psychologistic theories of content on which it depends, by contrast, on actual acts of thinking. And the "constitution" of the thought, or the sense of a sentence, from the senses of the individual object and concept terms figuring in that sentence refers, in an obvious way, to a quite different kind of structural order than any that is involved in the constitutive activity of any subject or agent.

It is true that, in thus invoking the idea of senses as determining references in accordance with the idea of thoughts as determining truth values, Frege does not explain how *they* (senses or thoughts) are first constituted or given. Indeed, in the context of a broader ontological/temporal inquiry into the basis of sense and its temporal meaning, Frege's own occasional metaphors of "timelessness" and a simply extra-temporal "third realm" must be resolutely resisted in favor of a more concretely motivated inquiry into the formally indicated structural phenomenon of givenness as such, one which interrogates (as Heidegger does) the very meaning of the "a priori" as it is invoked in these metaphors. But the key insight of Frege's that is more substantively at the actual basis of his logical conception of the constitutive connection of sense and truth is not that sense is simply extra- or pre-temporal, but rather just that it is not temporal in the way that objects are: that is, it is not temporal by being *effective*, by standing in causal relations with objects, or by being able simply to be "accessed" in the way that objects are by a mind that itself stands in such relations with them. This insight does not in itself simply preclude the possibility of an account of the givenness of senses as the modes of presentation of objects, but rather motivates a deeper inquiry (which, admittedly, Frege himself does not pursue, beyond a few suggestive hints) into the more basic ontological constitution of presence and presentation themselves.

This is why, as I argued in chapter 3, it is appropriate to pursue an "ontological" inquiry into the basis of sentential sense and truth in general in the hermeneutic conditions for the possible givenness of intelligible objects alongside, and in addition to, the "formal" inquiry into the structure of truth begun by Frege and continued by Tarski and Davidson. As I suggested there, neither part of this twofold inquiry involves any essential reference to the acts, activities, or capacities of an individual subject or agent, and it is no part of this inquiry either to violate Frege's strictures against psychologism (on the one hand) or to invoke a timeless, simply exterior third realm (on the other). In this chapter, we have begun to see how the structure of sense thereby suggested in accordance with the idea of the content of thoughts that Frege develops may itself serve as the structural basis for an ontologically clarified picture of the original relationship of sense and time. We will clarify this picture and fill it out further in the remaining section of this chapter and in the next one, where the structure of sense is specifically interrogated in relation to the historical being of languages as they arise and change over historical time.

It is true that to develop this essentially Fregean picture in the way that I have suggested here is to assume, along with Frege, that the order of deductive relations is, in a certain sense, complete. That is, in accordance with the unlimited application of the context principle, the specification of the deductive

relations among thoughts gives a *complete* characterization of their content. This contrasts with Rödl's picture, on which the predicative forms of the binding of "subject and predicate" must include not only relations explicable by means of a general calculus of the deductive order, but also the forms of the givenness of objects, to be explained by means of a "transcendental" as opposed to a (merely) deductive logic. It is not that, on the current picture, there is no room for the development of the topic of givenness by means of an ontological/hermeneutic inquiry that takes on some of the tasks traditionally accomplished by what is called "transcendental" logic; as we have seen (chapter 3) this kind of account of givenness indeed has, as Rödl in fact suggests, an indispensable role in clarifying how it is possible for a deductive calculus to "bear on" objects at all. It is just that the "givenness" of objects in this sense is not to be conceived as a logical *component* of the content of the individual "predicative" thought or judgment, and thereby placed alongside its inferential content, in the way that Rödl supposes it must. The manner of conditioning here is, rather, broader and more holistic, as is indeed appropriate to the general questions of systematic applicability and bearing that motivate it.

In fact, Rödl is correct to point to the constitutive underlying paradoxes that necessarily result from the assumption of the generality of the Fregean deductive logic in accounting for all aspects of content. Such an assumption induces, first, the problem of the specification of domains that seems to precede any possibility of applying it to any objects at all, and second, the paradox of totality in relation to the determination of extensions in the maximally general domain of objects as such that leads to Russell's paradox. These problems are real, but they cannot in fact be solved by an invocation of "transcendental" logic of temporality of the kind that Rödl suggests. We can see this by considering, for example, the way that Rödl proposes to solve the first problem: if the deductive calculus does not by itself determine the specific domains of objects to which it applies, these domains must instead be first "given" along with the objects within them by means of the "transcendental" bearing of thought on its object in (temporal) intuition. If a domain of objects can be "given" to predicative thought, independently of the deductive relations of sentences involving them, in this way, it is indeed possible to solve the problem of the specification of domains that is apparently involved in any application of deductive logic in general.

But if this solution were correct, it would be necessary, in order for us ever to apply the deductive calculus to any domain at all, that we first have not only a general conception but also determinate intuitive *knowledge* of the whole set of objects that it takes in. This knowledge would furthermore, as temporal, have to be something we come to at some time *prior* to the application of the deductive calculus to those objects. There may be cases where we indeed come to have detailed and specific knowledge of a limited or small finite set of objects before venturing to consider the deductive relations among sentences characterizing them; but it is surely wrong to think this is the general case. It must be possible to *consider* the application of the deductive calculus to a domain, in other words, without "first" supplying determinate conditions of application by means of an actual intuition of its several objects. This possibility is not, and cannot be, established by an actual activity of "providing sense" which is simply temporally prior to the actual application of the deductive calculus itself. For any such activity, in order to be carried out, would itself presuppose that the relevant deductive relations have already been given. This is why, again, whenever we consider the question of the "provision" of sense as the strictly intratemporal one of the "process" by which it can be provided, we will run into vicious circles of the type Dummett and Rödl point out. It is, of course, the same problematic situation that underlies the

second problem as well, that of the provision of extensions by means of (what must apparently be) impredicative judgments about the totality of (already existing) objects. If the current suggestion is correct, neither problem is to be solved by reference to the activity of a subject in providing intuitions to an object, or indeed to any already temporal process at all. It is, rather, in the paradoxical form of these very problems themselves, as it necessarily adheres to the logical/structural application of the deductive/inferential idea of sense to the totality of the world as such, that the very formal/metalogical basis for the development of any possible account of the basis of presentation and presence in general, and hence of the original structure of time, is positively to be found.

V

Following Heidegger, I have argued that Kant's conception of the basis of time in the schematism structurally contains, within itself, the formal indications that are necessary for a more radical posing of the ontological question of the basis of the structure of time as it is given to experience and thought. On the other hand, although Heidegger's interpretation of Kant also points to the deeper problematic underlying the structural aporias of Kant's account, it is not clear (at least insofar as he retains the conception of original time as arising from the possibilities "of" an individual Dasein) that he sufficiently illuminates the actual formal configuration of this underlying problematic itself. I have further suggested that this problematic is, in a way that is not directly confronted by Heidegger, the problem of the *original genesis* of number such that it can subsequently serve for the "measurement" of time and its marking in thought and experience with respect to the "before", "now," and "after." We shall take up the problematic in more detail in chapters 8 and 9, where it is argued that the deeper ontological basis of Aristotle's original definition of time as the "number of motion with respect to the earlier and later" is itself to be found in this more original problem of the ideal genesis of number from the constitutive ideas of the limited, unlimited, the one, and the many. This points, as I shall argue in more detail there, to a specification of the ontological problematic of the "relationship" of being and time which is not ever developed by Heidegger, but which may be seen as integral to it nevertheless and indeed essential, under contemporary circumstances, to its further development.

Like other aspects of the "ontological" problem, this one is not seen with complete clarity by Kant; moreover, as with the question of the basis of time generally, its development in Kant is characterized by what is, in the context of his assumption of representing subjectivity, the irresolvable aporia of the constituting and the constituted that we have discussed. This aspect of the problem is also, as I have suggested, not seen with any clarity by Heidegger, who rather prefers to avoid the ontological problems insofar as they involve the problems of mathematics and number in themselves. However, like the aspects of the problematic that Heidegger *does* see, it is indicated in Kant's text, in particular at those moments at which, beyond the "transcendental" distinction of appearances and things-in-themselves, the very structural form of being, such as it (officially) characterizes *both* the being of apperances *and* that of things-in-themselves, is at stake.

A passage from the Schematism, which Heidegger (despite the exhaustiveness of his reading of it) does not discuss in detail, may serve as exemplary in this respect:

> The pure image of all magnitudes (quantorum) … for all objects of the senses in general, it is time. The pure schema of magnitude (qvavtitatii), however, as a concept of the understanding, is number, which is a representation that summarizes the successive addition of one (homogeneous) unit to another. Thus number is nothing other than the unity of the synthesis of the manifold of a homogeneous intuition in general, because I generate time itself in the apprehension of the intuition.
>
> Reality is in the pure concept of the understanding that to which a sensation in general corresponds, that, therefore, the concept of which in itself indicates a being (in time). Negation is that the concept of which represents a non-being (in time). The opposition of the two thus takes place in the distinction of one and the same time as either a filled or an empty time. Since time is only the form of intuition, thus of objects as appearances, that which corresponds to the sensation in these is the transcendental matter of all objects, as things in themselves (thing-hood/ reality). (A 143/B 182-183)

In the passage, the ideas of *magnitude*, the *rule*, the *image*, *number*, *time*, *negation*, *sensation* and *being* all are assembled according to the question of the possibility of the schematization of the category of *reality*, in order to present how it accomplishes the *a priori* possibility of the representation of appearances under it. This schematization involves, as Kant says, the constitutive possibility of constituting a number of units in such a way that a "homogenous" intuition is itself brought to unity. Here, time and number are distinguished as image is distinguished from schema. Time, as the pure image, is the sensory form under which "all" magnitudes that can appear to the senses do so appear. But number is the schema that underlies this sensory image, and the possible appearance of magnitude it allows; it does so by "summarizing" the successive addition of units to one another. Number is thus the regular or schematized structure that underlies the application of the category of "reality" to appearances, or beings presented in time, in determining the magnitude of sensation present in them in a unified intuition.

This possible unity of such an intuition, and thus the possibility of its schematization in numerical terms, is itself conditioned by the "homogeneity" of the intuition in itself, and also by its "apprehension" as unified. In the apprehension of the intuition thus unified, "I generate time itself…" As we have seen, this "I generate time itself" characterizes the paradoxical structure of auto-affectivity whereby given time is both receptive and spontaneous, and both constituted and constituting, with respect to a transcendental subjectivity formally characterized by the transcendental unity of apperception. Here, it implies that the "generation" of time both presupposes and is presupposed by the procedure of a counting, whereby the "units" of a homogenous intuition are also constituted *as* homogenous units by being counted together as constituting a one. Elsewhere, Kant makes it clear that he sees any possibility of counting as, as such, conditioned by the temporal form of sense, and by the formal intuition of time that it makes possible. However, the counting here that allows the schematism of number to give reality in the appearances is itself the basis for the constitution of time as "pure image". If it cannot thus be said that the counting of the intuition (or of its "units") takes place in time, it cannot be said to be outside time either, for it itself presupposes both a "synthesis" and an "apprehension" of it. It is also capable of being "summarized" in the rule that presents it, *as* "number" to the understanding. This points to what must be, in Kant, an original paradox of the constitution of number in itself, one which is

not distinct from the problem of the constitution of the transcendental schematism in general Heidegger points out and that we have discussed. As the question, here, of the ultimate basis for the determination of magnitude in appearances, the paradox of priority that here arises points, in the context of this determination as greater or smaller in the intensity of sensation, to that element or aspect of them which must escape and precede the temporal form of their representation. This is that, in them, which corresponds to their "transcendental matter," their being as things in themselves.

Within the Kantian conception that links the being of number decisively to the temporal process of counting, it will not be possible to resolve this basic aporia of the temporal relationship of the counting to the counted. If this assumption of the actual basis of number in the temporal process or activity of a synthesizing subject is relaxed, however, the possibility arises of a more ontologically penetrating investigation into the being of number in itself. Such an investigation, though it does not and cannot simply take numbers as "timeless" objects, constituted in advance and in themselves, attempts to illuminate the actual formal structure that, as the genetic structure of number as such, mutually conditions both counting and the counted, both the being and the thinking of countable time as such. This structure of genesis is itself marked, as I shall argue in the following chapters, in the underlying metalogical dynamics of the constitutive ideas of the finite and the infinite, the one and the many. The problematic structures of combination and dissolution, or of identification and differentiation, that unfold this dynamics can no longer be reduced to distinctions such as those of activity and passivity, or of possibility and actuality, or of the intratemporal and the a priori as such. Rather, as I shall argue, they mark the original logical structure that was once grasped as the pure problem of the being of becoming, as it is grasped in the thought to which number and order are themselves accessible as determining forms.