

Forty Years Later: Naming Without Necessity, Necessity Without Naming¹

by

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Abstract: The essay examines the proper treatment of (i) naming (ii) necessity. (A) It argues their mutual independence (B) provides a treatment of naming separately from any idea of “designation” (C) gives treatment of *de re* modality without any use of possible worlds, essences, concepts, rigid designators (D) it argues an ultimate asymmetry—naming/referring is a key real notion of semantics; necessity should not be the central idea in the metaphysics of nature.

Keywords: Kripke, necessity, possible worlds, semantics

¹The present longish footnote recounts some historical facts I find significant.

NN designates *Naming and Necessity* (Kripke, 1980). It was given as three public lectures in Princeton winter 1970 and published as three lectures in 1972 in an edited collection by Davidson and Harman. Yet earlier, a class at Harvard (1967) and seminars at Princeton (mid-1960s) already stirred the waters. Thus, the Tsunami effect runs back more than 40 years. The final *NN* edition in 1980, contains a new preface, *NN*, 1–21.

The present essay recounts my own 40 year journey, always with a copy of *NN* on hand. The journey started late in 1979, as a first year graduate student in Oxford, with the late Gareth Evans (whose life was about to come to a tragic end), on with forays into the possible worlds model theory with Dana Scott, the arguments in the car as he was driving to help immigrants in Heathrow with tutor extraordinaire, Michael Dummett, the intense study with Hans Kamp of two dimensional modal logics in London once a week, the colourful visits of (the late) Hilary Putnam, and a bit later, the Locke lecturer that year, spring 1980, David Kaplan.

Then, came the US chapter of sorting *NN*'s riches. In 1982, this was carried out in interactions at Stanford with the late Georg Kreisel about the Kripke set theoretic model theory (is it *semantics*?), interactions with Kripke himself on visits to California, and a visit of my own to Princeton, and conversations with Howie Wettstein and John Perry.

This was followed from fall 1984 at UCLA by workshops (joint teaching) with Keith Donnellan, David Kaplan, and Nathan Salmon; the late Rogers Albritton, Tony Martin, Tyler Burge, Ed Keenan, and later, Kit Fine and John Carriero. The workshops were joined by friends from all around – Terry Parsons, Tony Anderson, Bob Stalnaker, Andrea Bianchi, Antonio Capuano, and Paolo Leonardi. Many graduate students wrote with me theses about this page or that footnote of *NN* (e.g., fn. 56 about *origin* surely generated more than half a dozen dissertations).

I wrote as a tender first year assistant professor an essay called “Naming without Necessity” (1983–1984) referred to as *Almog 1986*), where in the prefacing footnote I said ‘It’s only if you agree with 99% of *NN* that you can make the extra little fixes I suggest.’ A sequel titled “Necessity without Naming” was completed in 1984 and circulated among friends. But I archived it when I saw how local disagreements in the first piece were blown out of proportion. So, in effect, I never published the complementary point about how the proper treatment of *de re* necessity in ordinary English (“Nixon might have lost in 1968”) should proceed without possible worlds, rigid designators, special naming devices, and other such technical representational extras. I go back to this second part, in amplified form, 40 years later, in the present essay.

THE BLURB in the back of *NN* says ‘The lectures stood analytic philosophy on its ear’. Forty years later, I would like to examine this assertion.

The intuitive *examples* of Kripke are strikingly penetrating. This is true both (1) about *naming*, for example, the use of ‘Richard Feynman’ to *refer to* the man, without much information about the man ‘in the head’ of the user. (2) about *de re* necessity, be the *res* (object) a worldly individual like Queen Elizabeth or a *natural kind*, for example, biological species (‘Tigers’) and chemical substances (‘gold’). As a young student, on my first reading of *NN*, Kripke’s true *coup de grace* example against ‘in the head-ism’ was the missing in action *unicorns*. We all say with assured confidence ‘Unicorns might have existed’. In two haltingly elegant paragraphs, Kripke pulled the ground from under this *singular* possibility. Kripke’s examples were game changers.

Kripke’s *examples* change the game. But the *theoretical* explanations of *NN* are given within ‘the old game’, a 2.0 upgrade of Carnap’s *Meaning and Necessity*, viz. the possible worlds (PW) model theory, with a theory of *designation* ‘in a possible world’. The striking new examples have not stood the old *theoretical* framework upon its ear.

A fundamental problem is that the Carnap *designation-in-w* framework, as well as the Kripke 2.0 upgrade with *rigid* designation, mixes – in the *theory* – ideas from (i) the semantics of naming (reference) and (ii) the metaphysics of necessity. Kripke himself opens (*NN*, 22) with the remark:

I hope that some people see some connection between the two topics in the title. If not, anyway, such connections will be developed in the course of these talks.

The central theoretical submission of the present essay is this: This interlacing is inevitable because the theoretical frame assumed throughout *NN*, the PW model theory, *forces* such two-way connections. Instead, we urge *dis*-connection:

The metaphysical complementary side of *NN* followed me for four decades and I even got to apply it (critically) to Kripke’s *NN* claim that there *could* be pain without C fibres firing (and vice versa). I argued those alleged possibilities are illusory.

The role of *NN* – compared with Putnam, Kaplan, and Donnellan – refutation of Frege generated, over three decades, the monograph (Almog, 2014). It dissected the differences in the foundation of reference theory between the aforementioned.

In the present journey down memory lane, I write not so much in the theoretical vein of the monograph or learned reviews of the Wikipedia type (we have too much of that in our lives) but more with the tone of a personal journey, with its moments of elation, changes of heart about what matters, and self-examination of mistakes of youth.

We are a generation grateful to *NN* for changing the way we do things with philosophical words, how we teach in class, how we draw a philosophical picture etc. Whether *NN* altered the theoretical foundation of semantics and metaphysics is one question (dissected inside this essay); it certainly altered, by way of its focus on perceptive examples, the *practice* of day-to-day philosophy.

in order to capture the striking new examples, both about naming and about *de re* necessity, we must *undo* the theoretical connections (reductions) and display the mutual independence.

In a footnote on p. 48 of *NN* adjoined to the introduction of his critically central notion of ‘rigid designator’, Kripke muses:

It is better still, to avoid confusion, not to say, “In some possible world, Humphrey would have won” but rather, simply, “Humphrey might have won”. The apparatus of possible worlds has (I hope) been very useful as far as the set-theoretic model-theory of quantified modal logic is concerned, but has encouraged philosophical pseudo-problems and misleading pictures.

Gospel truth, three times over.

First, the pseudo-problems induce a *double jeopardy*. Kripke is worried in the footnote about the *modal predicate*, ‘might have won’. But as we see in a moment, the PW model theory mis-represents both the modal predicate and the subject noun ‘Humphrey’s naming of (referring to) Humphrey. In like way, we see below that because the model theory of possible worlds employs (union of) domains of possible individuals, we get saddled (1) in the naming theory, with erroneous claims that names such as ‘Vulcan’ refer (to an alleged possible object) and (2) in the metaphysical theory, with the claim that reputedly *possible objects* such as Vulcan might have *existed*. Both (1) and (2) must be retracted; the treatment of a quantified modal logic by means of set theoretic parallel domains and so forth is not the way to get at (1) how *naming* in natural language connects word and object in *real* history and (2) how the de-re metaphysics of possible existence *for* objects is generated in real history.

Secondly, Kripke chastises what he calls ‘the locus classicus’ of philosophical mistakes by other formalizers, such as David Lewis, David Kaplan, Van Quine, – and the yet more classical mistakes of one who did not formalize enough, the late Keith Donnellan, with the latter’s alleged confusion (*NN*, 25) of *speaker* and *semantic* reference.

But ironically, more than any of those criticized, it is Kripke’s own use – in those very pages of *NN* – of the formal framework that has struck the deepest impact. The lasting effect of the *Kripke*-flavoured possible worlds model theory – now that it has in turn *become* classical – was to engender what Quine termed ‘an illusion of understanding’. The possible-worlds encodings obscure the intuitive examples that pervade *NN* about both naming and necessity. So, at least, I submit below.

Third and final, on a more large-scale methodological level, there percolates here a moral – if, like Kripke in a moment below, we are in a moralistic mood – about *how to do* (analytic) philosophy.

In another corrective passage from the 1970s, in a paper dedicated to yet further classical mistakes, now of Davidson and his school's use of formal *truth* theory, Kripke closes the paper with a moralistic tale about the great mathematician Euler and how he cowed into silence Diderot, no doubt an enlightening thinker, by raining down on the poor atheist thinker with a fancy number theoretic formula from which, said Euler, Diderot's atheism is put to shame.

Reflecting on this, Kripke urges on us his pedagogical *motif*:

(K) There is no mathematical substitute to philosophy.²

By instantiation, I read this to urge 'There is no model theoretic substitute for philosophy'.

Here we run into irony again. There is no one who used more insightfully than Kripke model theoretic *facts* to illuminate philosophical issues. For example, in his work on proving the Gödel (first) incompleteness theorem, Kripke used cunningly crafted model theoretic facts about *satisfaction* of formulas to bring out the difference between (i) absolute arithmetic *truth* in 1,2,3... (ii) provability in Peano Arithmetic (PA), and (iii) 'truth' (viz. validity) in all PA models. He used this model theoretic route not only to simplify the original Gödel syntactic path to incompleteness but to *separate* the key idea – truth in 1,2,3... is different from (ii) and (iii) – from *examples* of the Gödel type involving *self-reference* and use of ... provability in the object-language independent statement proper.³

Therein, we find model theory used as an *enlightening* tool. But if one went on to claim this model theoretic tool furthermore grounds the primal notion of *truth* in 1,2, 3..., I would disagree – we are now confusing the *end* and the *means*. For we now use the model theoretic *artefact* notion of 'truth (really: satisfaction) in the standard model of PA' to understand the *natural* and (both metaphysically and epistemically) prior notion of 'truth in 1,2,3...'. We use model theory as a substitute for natural (philosophical) understanding.

Herein lies then what I would like to emphasize as Kripke's deeper lesson to analytic philosophy. This lesson *would* stand analytic philosophy upon its ear. For it would temper its disposition to substitute formal modelling(s) for intuitive understanding. The lesson pervades umpteen high points of *NN*, for example, as mentioned, there is no model theoretic substitute that makes us *understand* better the ordinary modal English 'Nixon might have lost'. In like way, the common perception that Kripke 'won the debate' with Lewis over the latter's alternative

² See Kripke (1975).

³ See Putnam (2000) and Kripke (2021).

PW models with *disjoint* domains is unfounded: as model theories of a quantified modal logic, both are fine; as metaphysical groundings of Mr. Nixon's genuine *possibilities*, both are not. And so it goes. As model theoretic tool used to prove the *independence* of the Barcan formula from quantified S5, Kripke's overlapping (here: growing) domains are very fine. But a counter model is not, not yet, a genuine *possibility*. To provide the basis for the (reputed) truth that *there could have been more things (e.g., elephants) than there actually are*, it is not enough to produce a domain of some set model, with 'extra' virtual items labelled a,b,c ... and in the extension of the predicate 'x is elephant'. This does not make for extra truly *possible* members of Reality's elephant species, items that would have to descend from that actual species.

Models are a mathematical substitute for Reality, with capital *R*, for *certain purposes* only. They are designed to study *validity* (satisfaction in all models of a certain algebra correlated with an underlying formal system), not genuine (modal) *truth* in Reality. This has effect on both the meaning and the truth of the vernacular's 'Nixon might have lost'. As per meaning, we explain below why we do not *refer* and *quantify* in ordinary modal English to models (even if re-named lyrically as 'worlds'). As per truth, we see in the last fragment of the essay, that whereas it is an algebraic truism that there is a *multiplicity* of models (on top of the one designated as 'real'), it is a substantial question whether Reality itself – including Mr. Nixon in 1968 – *could really* have gone otherwise. Modals do not reduce to models.

Our journey involves (1) separating both naming and necessity from their respective PW model theoretic encodings. Now purified, (2) we explain why the proper treatment of *naming* and *necessity* should make them independent from one another. (3) We close with reflections comparing the *fundamentality* of the notions of naming and necessity.

1. Part 1: Naming Theory and Its Independence From Necessity

What is the proper treatment of naming in ordinary English? The relation of *naming* – and its generalization to the relation *reference* – is a *real world* relation. It is not a relation of 'designation' defined *relative* to the local facts of a world or a set theoretic model. Furthermore, *designation* – as allowed by Carnap and following him, Kripke – applies to both single word names (demonstratives, common nouns) as to compound phrases, for example, complex predicates and definite descriptions. This abstract relation is in effect *satisfaction* of a condition (truth of a predication) relative to some index/parameter.

Designation is a language-to-world (model etc.) relation – it holds between an expression 'N', be it Nixon', the nonrigid (over worlds) definite description 'The

US president in 1968' or the rigid description 'The actual US president in 1968', and the *man* Richard Nixon. Why? Because the man Richard Nixon satisfies (makes true) certain predications (viz. of necessity, being identical to Nixon, being the *actual* US president in 1968; being only contingently the president of US in 1968 etc.). The relation of designation is *modelled* after the relation of satisfaction (at an index) in (modal) model theory.

In contrast, the relation of *naming* is not an abstract logical/model theoretic relation. It is a *historical* relation *generated* in the real world and so generated by real people (even if model theoretic semantics abstracts from their *acts*, which it demotes to the trans-semantics 'mere' speech act theory NN, 25)). Generalized naming – with demonstratives added – leads to the key worldly relation of *referring* – a real world relation that is in the vein of the medieval *etymology* of the verb *refer*, in old French's *referer* and Latin's *referre* – going back (hence the *re-morpheme*) to the original ferrying (*ferre*) of the object (the referent).

This relation of object-ferrying and returning to that ferrying-origin occurs in space and time, wherein the original object comes to impact the original users. The object is then *trans-ferred*, again in space and time, never exiled to an abstract set theoretic model or a never never land of (*merely possible!*) other worlds. Object transfer is like electricity transfer or, to use an all too vivid analogy, virus transfer: the recipient must be connected by actual causal mechanisms in space and time to the original object.

Referring-s are of a kind with *acts* of (biological) originations, for example, origination of baby Joseph by his biological parents. This origination had to take time and was located in space. In turn, Some (maybe the full 9) months after the biological origination of the human baby, another 'baby', was generated, the *name* 'Joseph' – for the now already originated human being. We may ponder whether an altogether new name was thus originated or whether a certain Biblical name – already in existence three millennia – was moulded – acting like a baking scheme – to a new specific local name.

Of course, there are many variations of this theme – the origination of a name for baby Joseph. But on all the variations I can think of, a name originated here *for* that human baby Joseph; the name is *of* – a downstream effect of – the human baby. Without the origination of human Joseph himself, this new use of the old biblical name ('Yosef') or this new name for Joseph Almog, would not *have come* about, we would have here an empty name. There would be no-thing to ferry.

1.1 Designation-in-w semantics versus back reference in reality

Various omissions about the proper treatment of naming are engendered in NN by the abstract style of the key semantic relation *designation-in-w*, a relation between (1) a symbol, as in a formal language, given by pure form, for example,

‘A-r-i-s-t-o-t-l-e’, and (2) a value in a set theoretic model/world (the designation). I mention five such pieces of *data*, noticed by Kripke’s formidable intuitive ear but mishandled by the theoretical apparatus of *designation-at-w*.

1.2 The poly-referentiality of ‘Aristotle was fond of dogs’

Kripke mentions in the new preface (1980) of *NN* is the that various different people have been called ‘Aristotle’. Kripke laments the objections voiced to him viz. ‘Aristotle’ is not modally rigid in the use picking up the ancient philosopher because, in this other use, it is mouthed to ... designate to the modern ship magnate.

Of course, Kripke is right about rigidity – the objectors are confused. Kripke always meant to relativize the rigidity (across worlds) to a *given use* or to an already *linked* chain of uses (all going back to the philosopher). In each such linked chain of uses, the name is modally rigid. I would say – without invoking *designation* across worlds – that in each such linked chain of uses it is the *originating* referent, for example, the philosopher Aristotle, that matters to the evaluation of the modal predication ‘might have been fond of cats’.

Designation theory mishandles this poly-referentiality. Why? The designation-in-w abstract style of the semantics with the recursion – as in a formal language – is done Hilbert-style on the mere *shape*. This encourages a host of confusions. To begin with, Kripke should add to designation-w another parameter, now demanding *double* indexing of the designation – ‘designation relative to historical chain h-at- world w’. Such double indexing was made popular initially by Hans Kamp, later generalized by Bob Stalnaker. The present writer discovered it on his own in a paper published as first year graduate student in Oxford.⁴

Errors of youth. The double indexing was mistaken *conceptually* – it forced apples and oranges into a uniform model theoretic indexing apparatus. The present writer was wrong in his graduate days to think this further relativization of designation to historical chains would get to the crux of the matter.

What is the crux of the matter? I saw a bit later that *naming/reference* are real world interactions (e.g., as visual perception is). It became quite clear that the two *uses* of the shape ‘Aristotle’ – anchored in different originating objects and different ferrying chains – resolve the matter. In each use, a spatio-temporal happening, we ferry in space and time an object – the referent and *only* it – now ready for subsequent, modal predications. I would not call this a vindication of *modal rigidity*, which presupposes the apparatus of *designation-in-w*. We do not

4 See Kamp 1971, Stalnaker 1978. My own piece is (Almog, 1981a). My two indices are not two possible worlds or two moments of time. The first index is a “dictionary” for the language-meanings fixed by the history of the use.

repeatedly ‘designate’ with a single abstract shape at this w and that w^* etc. We simply say: only the absolute real referent of that given historical *use* matters for evaluating the modal predicate of *him*.

Thus, I do not agree with Kripke’s 1980 new preface of *NN* when, deflating-ly, he says that the fact ‘Aristotle’ is poly-referential (‘homonymous’) does not affect any key issues in referential semantics.⁵

First, even if Kripke means by ‘all the issues’ *just* rigid designation (which I deny is the key issue of naming semantics), we saw that the explanation of the rigidity (or better, the modal predication of the same old referent) is different, if we operate only with the abstract shape ‘Aristotle’. The key to modal predication of the absolute real referent in this *use* is not due to constant abstract shape designation across a spectrum of worlds. There is none such. The key is that the referent is fixed in one’s use *before* predication, modal or not. The key is brought out in the motif *Reference precedes (modal) Predication (of the referent)*.

Next, quite aside of *modal* predications, the poly-referentiality of the shape tells us that we cannot assume automatically that there is a single word ‘Aristotle’, for which we provide a semantics relative to parameters (the way there is a single English word ‘I’ or ‘Now’).

We must consider the agent who is *doing* the referring – his *use* – as central to the *semantics*. Kripke would say that by invoking such *uses*, I am confusing semantics and a ‘pragmatic’ theory of speech acts in the vein of (what he classed as) Donnellan’s confusions (*NN*, 25).⁶

But I retort – and happily in the name of the late Donnellan whose writings I had the honour to edit – that the matter at hand is the crux of *semantics* all right: the referring done by a *use* of an agent is connected by back-reference to the particular object (or none) that originated the ferrying.⁷

This is to deny Kripke’s stigmatizing (*NN*, 25) of this investigation of the history of the use as mere ‘speaker reference’. Kripke thinks this last is only about what the speaker’s *beliefs* are directed at. But I respond that the invocation of the speaker’s *beliefs* is a distraction. No belief of mine about this or that Aristotle is at stake. The point made has nothing to do with *beliefs* – be they of the speaker or the hearer – for we are not in the Gricean territory of gauging the back and forth of interests and plans in a communicative act. We are focused on what – in the history of my use – determined my *back-reference* to individual x , not individual y . There may be no distinct ‘beliefs’ in my head, except the schematic ‘A

5 See Almog 1984.

6 Kripke 1977, delivered already in 1971 (UCLA) in the presence of Donnellan (in the audience).

7 See the present writer editor’s introduction to Donnellan’s collection (2012). See especially Donnellan 1966, reprinted in Donnellan 2012.

famous Greek' associated with both the philosopher and the modern Mr. Aristotle Onassis. The historical question here is akin to the question of which *language* I am using when I say 'I' – English, to use the first person pronoun, or Hebrew, to express pain ('Ouch')? The issue is about the *provenance* of my used word.

English is not a (Hilbert-style) formal language, wherein the immaculate symbol 'x'(individual variable) or 'a'(individual constant) or 'F'(predicate) is governed solely by a rule of evaluation we stipulate for the 'abstract language' independently of any historical use. In natural language, our words are anything but immaculate symbols; the words are *already* loaded with referents. They are thusly loaded by way of their *natural history*; the new loading of a new name, see the famed case of 'Madagascar' below, involves historical acts. We are thus isolating worldly objective facts – any beliefs aside – about the origin of this or that act of referring. This historical origin *fact* is one about which I may have *false* beliefs or *no* beliefs at all. The question is not what I believe but rather: what – in the world – generated this back reference act?

1.3 'Smith is raking the leaves'

Kripke says early in *NN*, p. 25 that his abstract semantic theory abides by the rule – *N is the referent of 'N'*. By 'referent' he means 'designation'. As in Carnap's founding text on designation, at this abstract *designation* level the rule is unitary, covering both names and descriptions. Kripke marshals this abstract rule to rule out counter examples of Donnellan with both names and descriptions in which on a given occasion of use the user refers back with his use of 'N' to a causally proximate entity, that *locally originated* his use rather than to the conventional rule referent of the common currency word 'N' whose history runs way back.

One notorious example is Donnellan's use, in a party, to tell me, of Jones, who stands right before us, drunk with a Martini glass – but filled only with water! – 'The man drinking Martini is tipsy'. As luck would have it, there is a unique man in the party – Smith – drinking Martini, hidden in the kitchen and unconnected to us.

Kripke asserts that the *semantic referent* (he means, the designation, JA) as it were *de jure* of 'the man drinking Martini', is Smith, unconnected to him as both you and I are. On the other hand, according to Kripke, Keith's *speaker referent*, a notion belonging according to Kripke to 'mere' *pragmatics*, is Jones in front of us because *Keith's* beliefs are about Jones and Keith tries to make me – in a Gricean fashion – also have beliefs about him. To Kripke, this situation is analogous to the Grice-like use by one thief speaking to another using the string of English words 'The cops are around the corner' to *communicate* to this other fellow thief something with quite a different lexical meaning viz. 'Let us split',

something the speaker wants the hearer to *believe* but not something semantically expressed by his words.

In my youth, till the late 1980s, I thought Kripke had it right, simplifying semantics by making it follow the model theory of formal languages, here in particular, the Russell casting of definite descriptions of ordinary English in terms of (first order) quantifiers. The case was handled as Grice handles the conditional ‘if, then’ in ordinary English – as first order logic’s *material* conditional – demoting to another field – strategies of local conversation – the fact that we do *not* use conditionals in English with the material conditional truth table. The simplicity of it all and the preservation of the formal semantic machinery seduced me.

By the mid-1990s, Donnellan, alas, already retired from UCLA, I have come to change my mind. Kripke’s casting of the matter of reference/naming/designation in ordinary English struck me as engaging in a *reduction of referring* to a simplified formal language (and its model theory) and its relation of *designation* in w. It was hard for me to believe Kripke would follow the track of formal language reductionists such as Carnap and Quine. But I have come to see that in his dispute with Donnellan this is what he does.

Reduction twice over – (i) Kripke’s fusion of semantic reference with designation (ii) the demotion of Donnellan’s point about *user reference* – and not designation! – as not semantical, a matter exiled to ‘pragmatics’. This is by the book Carnap’s own *Meaning and Necessity*’s method of defence – purify and simplify the designation semantics, exile the problem cases to pragmatics.⁸

My realization in the mid-1990s was twofold. First, spoken of abstractly away from any use, the description ‘The man drinking Martini’ does not semantically *refer* to kitchen-bound Smith; it *denotes/designates* Smith because Smith is the unique person satisfying the description (the predicate being true of him). If we had used the description ‘The man who actually drinks the Martini in the party’, we would even secure *rigid* designation of Smith. Still, we are not *referring back* to Smith; to begin with, he was never ferried to us. We are not semantically referring to Smith, period.

Secondly, and now to complement the idleness of kitchen-bound Smith, I submit – following Donnellan – that it is Jones before us who, in *this use*, is being *semantically referred* to by our use of ‘The man drinking Martini’ – Jones is the generator of the chain leading me to use the expression to refer back to him.

To reiterate – counter Kripke’s diagnosis, all the foregoing has nothing to do with my *beliefs*. Kripke in his use of the notion of speaker/semantic referent fuses two questions (I) The *reference question*: who – what object – historically

⁸ See Carnap (1956) appendix on meaning and synonymy in natural language.

generated the object referred to/thought of? (II) The *predication question*: to which object do the predicates in the belief apply?

(I)–(II) often split. Kripke focuses on (II). He reduces both semantic and speaker reference to designation by predication – ‘the man drinking Martini’^s semantic reference is Smith in the kitchen (Smith is the literal designation of the predicate ‘x drinks Martini’); in turn, the speaker’s reference is Jones because Jones is the designation of the predicate ‘man believed by the speaker to be drinking Martini’.

Kripke presupposes that in Donnellan’s story the key is the *falsehood* of my (the speaker) predicative beliefs. Kripke’s diagnosis of the case is in my view incorrect, fusing the reference and predication questions. Yes, it may well be that I am predicatively mistaken *about* Jones, believing falsely the liquid in his glass is Martini. But just as well, my situation may be different: I *know* the opposite – Jones is not (ever!) a Martini drinker. But I do not want to reveal this in public about him. In fact, I may *know* Jones is not a *man* but an undercover FBI female agent posing as a man (drinking Martini). I am doing my best to keep this cover. It is not my predicative beliefs (or knowledge) that fixes here to whom I refer. My referring to Jones is prior to such predicative beliefs.

So much then for the predication question, (II) above. It is rather question (I) that is the key – I refer to Jones because in the *world* – not in my head and its predicative beliefs – Jones *originates* the ferrying of that man (viz. Jones) to me; my use is one of *back reference* to that local chain’s origin. I *refer* to Jones despite using an expression whose form is compound and involving a predicate. What determines my reference act here is its history, not the form of my words which are a mere tool to communicate to you (my audience) *who* it is I already *refer* to. I could have used even an indefinite description ‘A man drinking Martini’ or ‘someone drinking Martini’. These expressions would be post my *already operative* back reference to Jones via the proximate chain.

To reiterate: the predicate I use – ‘man drinking Martini’ – is not determining my reference; if it did I would not be *referring*, there would just be a predicate with a *designation* involved. But what I do – *referring* – runs prior to any predication. My *back-reference* to Jones, straight in front of me, with a bare demonstrative-like pointing ‘that’, is enriched with a predicate or a pointing finger to guide my audience to the man to whom I *already* am (back-) referring. In ‘That (man drinking Martini)’ the predicate in the parenthesis is a mere post-reference *communication helper*.

The situation is akin to what Kripke says in *NV* about Feynman and my offered description ‘a famous physicist’, when you ask me ‘But who is Feynman?’. The device ‘Feynman (A famous physicist)’ is not to fix reference; it is already fixed

as Feynman. Rather, post-referentially, I *coordinate* our communication, viz. I let you know *who* the *already* determined referent is. This would serve even if Feynman was in truth a mathematician and I got his department in the university incorrectly.

Like remarks apply to Kripke's application of the party case to *proper* names, yet again used in his critique of Donnellan. Facing Jones as we did before, I say to you in the party 'Smith is drinking Martini'. The question is – to whom am I referring?

The question is not of duality between *designation* of kitchen man Smith and *referring* to Jones in front of us (Kripke's reduction of reference to designation misses this difference). There is no question in *this* case of names about 'who satisfies some predicate *in the party?*' The question now is about two competing worldly chains, *both* of *semantic* reference: (i) the long distance chain running back to kitchen bound Smith, a chain that has not been active now in the party versus (ii) the proximate chain from Jones in front of us, tracing he who impacted my perception and my back-reference.

Again, the matter may not involve false beliefs (viz. I mistake the man in front of us with Smith).

I may well know the man (?) in front of us is the well-known Mr. Jones, who is in this party incognito, or lo, disguised as Smith, perhaps even carrying a tag 'Smith' and falsely introducing himself to us with 'Hullo, I am Mr. Smith'. I am interested in keeping his cover and I say to you 'Smith is tipsy'. I *refer-back* to him. Surely, I am not referring back here to kitchen man Smith, or any other Smith in the world, for I have not *received* any of those Smiths in the current use.

The situation here is akin to my having in my English vocabulary the two words 'Bank (financial institution)' and 'Bank (side of river)'. We are standing in central Manhattan watching the building which serves as the CIA station but which disguises itself as a bank by putting a big neon sign 'Wells Fargo'. I say to you 'Look at the man in trench coat leaving the bank'. I here refer to the man leaving the CIA station and I use 'Bank' to focus on this building which I *know* is not a financial institution. Furthermore, my use certainly has nothing to with reference to the far from view side of the Hudson River.

1.4 'Madagascar is south of the equator'

The fusion of designation with reference recurs with Kripke's response to a famed example offered by the late Gareth Evans, according to which the name 'Madagascar' was previously the name of the African mainland (Mozambique). Marco Polo's sailors mistook it for a name of the island. It is now the name of the island.

Evans himself saw this ‘shift of reference’ as indicating that (1) Kripke’s gloss is mistaken viz. the pertinent object, by Kripke’s lights, should be the *original* object generating the chain (viz. Mozambique). (2) The name is fixed with its referent by a description ‘The dominant source of the current beliefs associated with the name ‘Madagascar’ viz. the island.

As a graduate student in Oxford (with larger-than-life tutor [the late] Evans in my first year therein, 1979–1980), I was rather shaken by this example – I was certain Evans was wrong (and argued it with him in the pub only to be crushed) about the *theoretical* conclusion he drew from the case. But I also did not find Kripke, with a single word ‘Madagascar’ and its (rigid) *designation*, offering a satisfying answer either (Kripke was classing the original shifting Marco Polo sailors use as a mere *speaker* reference induced by their mistaken *beliefs*). Wedded to Kripke’s designation idea as the sole *semantic* relation, I could not see my way out.

A few years later, I came to see the error here is the same as with ‘Aristotle’, ‘Smith/Jones’ and in a moment below, ‘Neptune’; we do not have an abstract rule of designation for the single word ‘Madagascar’ in the language ‘in general’, leaving historical facts of use to mere pragmatics. We rather have on going *competition* between historical chains about *which semantic* reference is operative in a given use. In some early use, the chain led back to the mainland and we can still recreate – speaking in the historical present or other Mozambique priming set-ups – such uses. In most current uses, the chain leads back to Marco Polo’s island-bound use.

Investigating together a medieval diary just unearthed with ‘Madagascar’ appearing in the text, a text not exactly dated yet (‘Is this diary affected by Marco Polo’s sailors, yes or no?’) I can say to you, my co-investigator, ‘I wonder whether Madagascar is Madagascar’. Here I find myself in the situation Bertrand Russell reports being in when the carriage arrives in King George’s manor and the butler announces ‘a certain Scott has arrived, Majesty’. Whereupon King George wonders whether ... Scott is Scott (the famed Sir Walter Scott). Russell points out we would not like to saddle the first gentleman of Europe with reflections about the first law of identity (for all x , $x = x$). By no means. King George, as well as us Madagascar ponderers, know full well the universal law. We rather wonder whether Scott is Scott and Madagascar is Madagascar?

This uncertainty is not a matter of ‘exotic’ speaker reference driven by exotic *beliefs*. It is rather a clash (or suspected clash) between two chains of *semantic* reference, two *uses* that come to intersect – we wonder whether we have been ferried the same individual twice over or two individuals (two body doubles) only *seeming* to be one.

1.5 ‘Neptune is the Uranus perturber’

The ‘Neptune’ case has been another major battle ground between Kripke and Donnellan. Again, I submit that the theoretical apparatus of (rigid) designation leads us astray. This is an important test case, so I will linger a bit on it.

Kripke submits that Leverrier, the French astronomer, stipulated ‘Let “Neptune” refer to the cause of Uranus perturbations as described by Newtonian gravitation theory’. Kripke speaks of *reference-fixing* by description. But he should have said: if the *designation-fixing* description is satisfied by planet x in the actual world, then x is the *actual designation* of the description. Kripke is interested in Leverrier’s *transmuting* the *actual designation* of the description into the *rigid* designation of the new name ‘Neptune’, that now carries its *actual* designation to all other worlds.

What is more, says Kripke, lurking in this name introduction procedure is a surprising *epistemological* result – *Leverrier knows a priori that: Neptune is the Uranus perturber*. Leverrier never learned this by a *sighting* of Neptune; he simply *stipulated* the matter in the privacy of his study.

Donnellan disagreed with Kripke’s account.⁹ Leverrier may know a priori, by rule of *designation application* that: *the actual object perturbing Uranus is the Uranus perturber* (and this last is still a modally contingent truth, for the actual Uranus perturber might not have perturbed Uranus). I assume here Kripke is right about this possibility (contingency) that the solar system’s planets could have acted differently. I will doubt such contingencies later in our essay in our discussion of metaphysical contingencies in the action of the world.

But now Donnellan objects: (rigid) designation by the description is one thing; *reference* by the name ‘Neptune’ is quite a different matter. For Leverrier to use the name ‘Neptune’ to *refer back* to the planet, he has to be *connected* with that object (although still unsighted) by a channel that transferred the object to him in Space by causal means. So much for the price of back reference – once Leverrier is so connected, he does not know the truth a priori; he knows it by way of the ferrying causal connection.

By the mid-1990s, I have come to see (1) Donnellan is right about this case (2) stronger yet, Donnellan touched the hem here because he points out a *foundational* trouble with the Kripke contingent a priori cases – the key is not the *modal contingency* so much as securing the *singularity* (objectuality) of the alleged a priori truth, whether necessary or contingent. In this respect, the type of consideration raised by Donnellan disqualified *any* singular Neptune-truth, even that

9 Donnellan 1978.

Neptune is Neptune (or that Neptune is self-identical) from being known a priori. He who *refers* to Neptune does not know of *it* anything a priori.¹⁰

The story of Neptune is treacherous. I started suspecting something is amiss in Kripke's theoretical description, already in the late 1980s, when I realized that Leverrier's description – just like 'The man drinking Martini' – was not even *actually true* of Neptune; Newtonian gravitation theory is inaccurate and, in fact, *misdescribes* the orbits of Uranus and Neptune. The misdescription is consequential. In the next astronomical sortie of Leverrier, when he introduced the name,

'Vulcan' to designate whatever causes the perturbations in the orbit of Mercury. If we followed Kripke, we would have to say Leverrier knew a priori that Vulcan perturbed Mercury. But of course he did not know this a priori. Leverrier did not *know* anything here because the description is *false*; there is no such a planet, Vulcan, period.¹¹

In like manner, Leverrier could not know – let alone a priori – the description 'Uranus perturber by Newtonian gravitation' of Neptune because it is *not true* of Neptune. An easy case of the kind arises (also mistakenly classified as a priori by Kripkean reference-fixing rules) with the ancient fixing-description 'Hesperus is the evening star': the ancients could not know this a priori because the object Venus is not a *star* at all, it is a *planet* (see *NN fn. 34*).

1.6 Are singular a priori truths possible?

I would now like to generalize our findings and go beyond Donnellan's local discussion of Neptune. The point is to submit a *general result* about Kripke's singular a priori contingent cases.

Notice this: I have not contested Kripke's general separation of the epistemological notion of a priori knowledge or justification from claims of modal ('metaphysical') necessity, be it *de re* predication of an object as in 'Neptune is necessarily F' or an indirect discourse *de dicto* report 'It is necessary that:

10 Ironically, I resisted seeing the point while Donnellan was my colleague at UCLA and tried to convince me. By the mid-1990s, he retired and the point grew up on me. In meetings 20 years later, bent on editing his writings, I pointed out my mistake to Donnellan. He in turn observed he was wrong to say in 1978 that Leverrier did not know which planet Neptune was before direct sighting (the point about *knowing which* is separate from the main issue here, which is whether a causal chain from Neptune (via traces in Uranus' orbit) reached Leverrier. This could be true without Leverrier knowing who (which) item (planet?) Neptune is). By 2012, I inserted into the edited writings of Donnellan 2012, Donnellan's correction that Leverrier did know which item Neptune is.

11 This was raised as part of my comments on Kripke in Notre Dame lectures during his 1987, with Eli Hirsch and myself as commentators. I suspect, but do not recall vividly, that Gareth Evans told me essentially this point in a pub early in 1980 (January): if one is Millian about a name N (like you JA are, he added with a foxy smile), then no singular a priori knowledge of "N ..." is possible. He meant it as a *reductio* of the idea of Millian names; I viewed it as a *reductio* of the notion of singular apriorism.

Neptune is F'. Surely the epistemic and modal *notions* are distinct. Furthermore, there may well be examples, like David Kaplan's logic of 'actually' cases – *Actually (P) iff P* – that may be known a priori but are not necessary.¹²

We here focus on singular *subject* place expressions that are naming devices, such as 'Neptune'. We submit – no such naming expression can secure singular a priori knowledge.

I cited already the problem of *objectual existence* in the case of Vulcan, wherein the name is empty. 'Vulcan = ...' does not give a priori a Vulcan-involving truth because there is no Vulcan to be ferried to the user. Some defenders of Kripke retreated to the conditional 'If N exists, N is F' (e.g., If N exists, then N = N) is known a priori. But I deny this for the *Millian* referential semanticist: the whole conditional is just as existence-dependent as is the consequent. No singular *de re* truth involving Vulcan can be generated without Vulcan.¹³

There is no referring to Neptune if the object Neptune had not been in cosmic existence and subsequently come to the user through spatial ferrying. Certainly, Aristotle the philosopher (and the ship magnate) exist no longer but they exist-*ed* at one time in cosmic space and generated chains, just as a star that existed once, and had collapsed since, generated light that reaches us now in perception (the example is due to the late Keith Donnellan). Such relations in cosmic space are not given a priori. They cannot be had if the object never existed and never originated a chain.

Of course, 'knowledge a priori' may mean umpteen things coded into 'prior to and independent of sense experience'. But I take it in a very broad way – experiential contact with the object in the world. So read, 'N is F' cannot be known a priori and twice over.

First, the *de re* predication of N that it is F cannot be known by me independently of N's existing once and impacting me by causal contact (this much is a *de re* fact of contact and does not have to do with names, it is the *object* that must impact me, named or not). Secondly, the *dictum* expressing truth 'N is ...' where now the name 'N' is essentially involved, cannot be known a priori because the

12 I hold this to be true even of naming of numbers (ordinals) or reputedly a priori known sense data. I focus here on Neptune-like "physical" entities, but see the remarks on "I exist" below.

13 As noted by Keith Donnellan (1974), "Vulcan does not exist" is a true sentence but not because a truth or proposition involving the object Vulcan makes it true. The condition making the sentence true involves the question whether in the real world as a matter of natural history, the name's introduction, and subsequent ferrying was successfully loading an object at the origin. I discuss such questions of the omniscient observer of history below and originally, following Donnellan, in my pieces of 2005 and 2014.

referring back with expression ‘N’ to anything involves the action of the original object ferried by the chain that generates the use of ‘N’.

1.7 Do I know that I exist a priori?

Donnellan may concede too much when – with many others – he allows that, names introduced by description aside, at least this singular truth viz. ‘I exist’ (not introduced by a description) is known a priori to its user. I deny this. Deny it both *de re* and *dicto*: Descartes does not know of his own existence a priori and he does not know the truth – involving linguistic reference to him – expressed by the French/Latin sentence – *Ego Existo/J’existe*. The reader may suspect the question turns on subtle mind/body identity questions – what if Descartes himself uses his ‘I’ to refer to an immaterial mind?

I don’t think mind–body fanciful dualistic theories dominate here. It is the other way round – a sheer mind (if the notion made sense at all) existing immaterially would not be *referring* if it were out of space and time. The present writer reads Descartes as taking *himself* to be the full *man* Rene Descartes. If so, Descartes cannot know of his own worldly existence, language aside, without that very *man* transferred into his thinking.

In any event, language aside, to have the very cognitive capacity of knowing (and thinking of) anything, one must be connected to the frames of space and time. Those who read Descartes as solipsistically inclined have it upside down: the first meditation is a *reductio*, not a derivation, of the idea of thinking without a spatial world of objects.¹⁴

In any event, most modern language inclined philosophers have put aside the sheer *de re* knowledge of one’s own existence and focused on the sentence-dictum form ‘I exist’. I may know that this linguistic form (scheme) expresses a truth in every David Kaplan-type context. But this is not to know the *truth* – involving *JA* – that I express when I say ‘I exist’. To think *that* truth – to have that truth thought by me – I must be referring back to myself, a connection not even the pronoun ‘I’ can escape. It is not – here I criticize David Kaplan in the vein of criticizing Kripke about semantical rules of designation – the abstract semantical designation rule in the abstract model theory of contexts, ‘*I* designates the agent of the context, that makes me refer to ... me. It is *me*, the living agent Joseph, who, together with my use of the word ‘I’, who makes me refer-back to me. The same applies to Kaplan’s famous case of ‘I am here now’. I do not know *that* very truth that I now express with this English sentence just by knowing the character rules of ‘I’, ‘now,’ and ‘here’. I must be connected causally – not *know which* place and time I am in but *receive* this spatial location and

¹⁴ For a defence of such a reading of Descartes, see the writer’s monograph 2008.

time in me – for back-reference and subsequent knowing that I-Joseph Almog am in Europe in August 2020.¹⁵

1.8 ‘Unicorns might have existed’

Early in *NN* pages 23–24, Kripke makes a surprising claim. He says nobody ever accepts it – that although ‘unicorn’ is an empty common noun, many say that there *might have* been unicorns. He adds that now – 1970 – he wishes to *deny* this possibility of unicorns. Kripke points out that in earlier work on quantified modal logic (QML) in 1963, he did allow that: although Vulcan does not exist, *it* might have existed. This, Kripke now adds in 1970, was said because of the style of the model theory allowing possible non-actual objects from the domain of other possible worlds be the designations of free variables and by analogy of names. *Designations?* By all means. But how could such empty names ever come to have *referents*?¹⁶

In *NN*, in the addendum pp. 156–158, Kripke corrects his earlier formal QML treatment’s application to natural language. He tells us – no, there is no possibility for unicorns (Vulcan). Why not?

There are two possible explanations I turned over in my head already as a first-year graduate student with Gareth Evans (winter term of 1980). On the first ever reading of mine of *NN*, I immediately thought Kripke is *right* (NB, not wrong, as Kripke says, most commentators submit). But why would he be right? Which of my two reasons was right? The one is an *argument from essence*. The second is an argument that is essence-free and anchored in *real world* existence and *caused* reference.

The first explanation – from *essence* – is cited explicitly by Kripke (*NN*, 156–158) – the analogous species common noun ‘tigers’ is referring to the species of tigers (in Kripke’s language ‘designates the species in a world *w*’) only because the tiger species *identity* can be specified in a world *w* (a key for the notion of *rigid designation* demanding the *same* species designation across the worlds spectrum). The species identity, says Kripke, is secured via an individuating essence (in terms of DNA structure) and not just via under-determining superficial (and modally contingent) appearance, for example, four-legged, ferocious, striped, kind of animal. So in each world *w*, we can give a predicative condition individuating this one and only species: the tigers. No *single* species may be essentially individuated in the unicorn case: species of different kinds – amphibian, reptilian, mammalian – may fit the unicorn-surface characteristics in a world *w*.

15 This idea about first person reference is developed in Jessica Pepp’s UCLA thesis.

16 Kripke’s model theory is given in Kripke (1963).

But this cannot be the answer. Immediately, one can think of cases of bioengineering a species, say the *Bobblows*, that have DNA B, and so forth, as in Asimov's stories. Would that individuating hypothetical essence close the gap? The *referential failure* would be now compensated by an individuating essence covering all worlds. Blueprints for rigid designation would be secured. But the question is about ... *reference* in the real world. Has this been secured?

The second argument from real existence has nothing to do with a missing individuating essence for unicorns; no magic Asimov *essence* for Bobblows can bypass it. The point now is that to *refer* to a species, there must be at the origin of the chain, a real species that was loaded into the word. But in the case of the unicorns – unlike, say, the now extinct dodos – no such unicorn species ever existed, no species was loaded into the common noun.

'Unicorn' and 'Vulcan' are thus *terminally referentially empty*. Again, here the crucial difference is between (1) possible *designation* – a Carnap intension that is specific enough to specify what it is to belong in the extension in a world *w* – and (2) *referring*, where it is only the actual real object (species) that can get the relation of ferrying itself generated. We can ferry the unloaded name all right (this is how I got 'unicorns' in my vocabulary) but the link seals off the fate of the noun; it is *received* as empty because it was empty at the very origin. There is no-thing to refer back to.

As noted by Donnellan,¹⁷ the chain is real enough, and it settles translation questions (*Pere Noel* goes over to 'Father Christmas', not to 'Robin Hood'; 'unicorns' goes over to 'Licornes', not to 'Griffons'). Donnellan, Geach, and Moore, this last already in 1936, noticed that the chain determines that two thinkers may be co-thinking emptily (about the same emptiness), for example, all those connected to that-witch, *Vampirela*, perhaps identified by various other names, but all sitting on this one connected wire. So here we co-think and may, in Geach's sense, use indirect discourse with pronouns to report that Hob and Nob feared the same witch ('Hob feared Vampirela (some bloodthirsty witch) and Nob feared her too'). But we so report without thereby saying – falsely – that there *existed* a witch they both referred to and feared. They did not refer with 'Vampirela' to anything because no Vampirela was ferried to them to begin with, although the empty name 'Vampirela' was ferried, a name that by its *origin* was determined to remain empty forever.¹⁸

¹⁷ "Speaking of Nothing" 1974, see in his collection of writings op. cit.

¹⁸ See Moore "Is Existence a Predicate?" Aristotelian Society 1936 and "Imaginary Objects" 1934.

1.9 Summary: Naming without necessity

Summing up the first part – focused on the fundamentals of Naming – we can mark down three key observations:

- (1) **Naming/referring is not designation.** The naming relation is not represented well by the abstract Carnapian relation of designation even when upgraded to *rigid* designation. This strikes us twice over – (i) the spectral abstract model theoretic relation *designation at w* is fundamentally different from the absolute real world generated relation of *referring*. (ii) Even when we avoid this model theory of possible worlds, *referring* involves no *de re modal* commitments.
- (2) **The key to referring is in facts about the mind/epistemology.** The fundamental insight behind Kripke's cases (as those of Putnam) of naming/referring to objects/kinds concerns matters of *epistemology* (cognition), not modality; we refer to objects/kinds without having 'in the head' information determining the reference. The re-ferring relation, coded well by the verb *referer* in Latin/old French, runs from the object/kind to the user – in the real world only – a user that is *already* thinking-of, for example, Feynman or tigers, before any descriptive predicates are associated in the head with those objects/kinds thought-of.
- (3) **Semantics versus para-semantics.** Kripke's designation semantics, like Carnap's before him, has but one frame viz. the *intra*-semantical apparatus of designation in the possible worlds model theory. It is inside this frame that we must accommodate insights about determination reference, truth (and logical consequence). Other matters, such as the key functioning of causal chains or of Twin Earth (qualitatively isomorphic but causally disjoint locus), are relegated *beyond* semantics into a wastebasket called *pragmatics*, where they are lumped with rational communication rules of conversation such as Grice's.

A false dilemma is now enforced: (A) either we exile such reference-determination by chains to pragmatics, or (B) we reduce them inside the possible worlds model theory into a double-indexing generalization of Carnap (this line has been pursued by Stalnaker; its origin is in the Kripke model structures for modal logic, set theoretic pairs (G,K) with G an 'actual' world and K a set of possible worlds. By varying G, we get the effect of the pre modal phase of *reference determination* and of Twin Earth as a disjoint reference determiner).

The dilemma's choice between (A)-(B) is to be rejected. Instead, we submitted that Kripke/Putnam's important insights about historical chains as about Twin Earth, as well as Donnellan's reflection on what real relation determines my *use*, suggest a

separation between (C1) semantics proper and (C2) *para* semantics. Neither should be confused with *pragmatics*, which is focused on conversation rules, as in Grice.

Semantics proper is *reference-only*. The only semantical value of single word nouns (proper, common) is the *referent*. The semantics is not to be confused with a model theory of possible worlds designed for model theoretic *validity* for modal logics.

But now, in addition, we have a ground zero stage of *reference determination*, which we call *para-semantics* (a twist on David Kaplan's terminology of *pre-semantics*). Here we fix *which* Aristotle is in action in my local use; once this para semantic factor is settled, the sheer semantics (of either use) is just the referent and no further sense/meaning/connotation. This level of ground zero para-semantics is again not to be coded by a model theory of possible worlds. It is real world bound and reflects facts of actual natural history. In turn, Twin Earth is not another possible world *w* in the designation semantics – a counterfactual way reality might have been; it is another *model* for a parallel language having similar formal expressions but being a disjoint language altogether. In this disjoint language, the shape 'unicorn' may well refer (with *back* reference to a species in TE).

2. Part 2: Necessity Without Naming

Throughout *NN*, Kripke discusses assertions in modal English such as 'Nixon might have lost the 1968 elections' and 'Nixon could not have failed to be human'. He also discusses claims of essentiality as in 'QE is essentially of her actual origin', where 'essentially' is understood modally, viz. it is of Elizabeth essence to be F iff Necessarily: if she exists, she is F.

This last definition places 'necessarily' in sentential modifier position as in 'Necessarily: $2 + 2 = 4$ ', where a whole clause's (*dictum*) necessary truth seems at stake. It is those uses of modality in ordinary English – *de re* and *de dicto* – we are after.

In what follows, I offer a host of realizations that grew on me since the 1980s. The realizations separate core *insights/intuitions* behind Kripke's modal claims from abstract semantical-metaphysical *theories* that are introduced in *NN*, as if the intuitions and theoretical encodings go hand in hand. They do not.

The issue is not just of *formal* independence – this is easy enough to see – but *substantial* independence: not only does the treatment of necessity *need* not call on these extras – naming devices, rigid designators, essences, possible worlds– but stronger yet, these extras are dangerously *alien* to the spirit of the core insights.

2.1 Necessity without designators

This first independence goes back to our theme in the naming section; just as Kripke's Millian ideas about naming are free of any modal involvement (e.g. with modally rigid designation), Kripke's core ideas about necessity are free of any involvement with names, and more generally, designators.

Kripke says on p. 49 of *NN*:

It is because we refer (rigidly) to Nixon that trans world identifications of him make sense.

This claim struck me as incorrect in tender youth, on the first reading of *NN*. I thought – the claim is false; furthermore, it is *shown* to be false by Kripke's own insights. Why then did *he* say this?

The *de re* modal predication of Nixon depends on no name or rigid designator. Surely using no words – pointing to Nixon silently – or using a non-rigid definite description 'the man who owned Checkers', I can go on to apply the modal predicate – he might have lost. This would not be *synonymous* to the dictum 'Nixon might have lost' because 'Nixon' and 'the man who owned Checkers' are not synonymous; indeed, they do not have the same Carnapian possible-worlds intension. On some stipulated reading 'The man who actually owned Checkers' is co-intensional with 'Nixon' but, intuitively, still not synonymous with it. The point is: none of this semantical dissection of the linguistic functioning of naming/referring versus description-denoting/-designating, is essential to our focal point: whether this person – approached by whatever means – might have lost?

The *modal reality* concerned, the man himself (the *res*) and the modal feature *might have lost*, stand independently of any direct reference or rigidity of naming devices. It is open to a fully Fregean philosopher of language (about names) to *deny* Millian naming doctrines but still *embrace de re* modal predications.

Russell may not have been far from such a view. While denying that ordinary language names are Millian (they are truncated descriptions, he said), Russell embraced *de re* forms wherein one could say in a language altogether free of any singular terms 'There is someone who might have lost.' If we use only sentential modal operator reductions (Russell was wedded to such sentential operator forms), we can say 'There is someone who owned Checkers and it might have been the case that: he loses in 1968'; Possibility (Necessity) without naming.

Kripke himself makes this clear through his technical treatment of QML in his 1963 paper. His language has no singular terms (let alone names); it is purely quantificational. Strictly, the language expresses modal predications (modulo the reduction of the modal adverb to a modal operator on open sentences). The form (*Ex*) *Possibly (Lost(x))* is coherent (and true when we plug the object Nixon as the variable's value).

The point just made – necessity without naming (or singular terms) – is not only metaphysically clear from Kripke's examples but stronger yet and ironically, the invocation of names and rigid designators might *undo* the very clarification just achieved; the use of designators will serve as grist to Quine's mill, his *logic*-based substitution argument *against de re* modality.

2.1.1 Enters Quine's influential argument and Kripke's response to it. Year after year, this point – Kripke's involvement with designators helps Quine's attack on him (Kripke) – was made regularly by undergraduate students while I was teaching at UCLA for three decades an upper division undergraduate class on *NN*, sometimes jointly with David Kaplan, sometimes with logician Tony Martin, sometimes alone. By the third or fourth week of classes, a cluster of students would protest as follows:

Kripke's use of (rigid) designators (in *NN* 47–48) strengthens Quine's hand against ... Kripke. Kripke says to Quine: you must be wrong because we can use rigid designations of Nixon, and this blocks your famous substitution argument. That argument (cutting across variations) is that (1) 'Nixon might have lost in 1968' is true; (2) 'Nixon = The winner in 1968' is true; therefore (3) 'The winner in 1968 might have lost in 1968'. This last is supposed to be false.

On the other hand, if we use in (2), as the extra term, as Kripke advises (*NN*, 47-48), a rigid designator, be it a name ('Tricky Dick') or a rigid description such as 'The actual winner in 1968', the amended conclusion would be true. From this, Quine concludes that it is not Nixon himself who bears the modal feature but only Nixon relative to a mode of designation – 'might have lost' applies under 'Nixon' and 'The actual winner in 1968' but not under 'the winner of 1968'. Modal 'contexts' seem resistant to attribution of the modal feature to the man himself. Quine Vindicated.

Let us make two annotations to the undergraduate students' perfectly clear point.

First, we consider the argument as a piece of ... logic. As a piece of "logic", the argument is hopeless even at *first* blush; later blushes only make the impression stronger. This is ironic because perhaps Quine had *good metaphysical* points to make against *de re* essence and necessity as metaphysical notions. But he insisted on using his baton as a *logician*. Of course, all of technical philosophy – Carnap, Church, Montague, Hintikka, Kanger, – followed suit.

Many called it a 'paradox', in the way the postulation of a universal set was classed by Quine and his followers a 'paradox' (and attributed to *set* theory). But, in fact, on week 1 of undergraduate set theory classes, the framework of Zermelo's set theory *Z* is shown to carry a theorem in Zermelo's 1908 pioneering axiomatization paper (theorem 10) that says 'there is no universal set'. No paradox, just a theorem.

Our modal case is similar: simple attention to *ordinary modal English* dissolves the drama. I do not urge this as Monday morning quarterbacking. I submit the point as obvious to any language user – pre-philosophy/pre-logic – any user

who just listens to the modal English sentences carefully before jumping into ‘logical forms’ and other such regimented constructions. By analogy – undergraduate students who are told sets are built bottom up from some ur objects by iteration of power set and union operations at the pertinent stages, *see* in a flash there is no universal *set*, in that unequivocated sense of *set* viz. set of things.

I recall being told of Quine’s devastating argument by my first teacher in the university, the late Yehoshua Bar Hillel, as a teenager in 1974, and thinking: obviously, this argument turns on an *equivocation*. If you *disambiguate* correctly (and keep to the same type of reading throughout from (1) to (3)) you (A) either get a subject-predicate (‘Leibniz’) form of *Fa, a = b, therefore Fb*, or (B) else you do not have an argument of this subject predicate form.

I saw (A)-(B) without knowing then anything of Russell’s scope distinctions or his theory denying in (2) the identity form $a = b$ because of his elimination of descriptions (etc).

The *equivocation response* was by ear only: if (1) is read as ‘Fa’, viz. object a has feature F, we read (1) as – *Nixon: might have lost*. Now, we have to read ‘Fb’ also in this subject predicate form, viz. *The object that is the 1968 winner (Checkers owner etc.): might have lost*.

So read, the argument is perfectly fine. (3) comes out true (*without* – I add here later adult knowledge – any rigid designator introduced for ‘b’). On the other hand, if we read ‘Fa’ as ‘It is possible that: Nixon loses in 1968’, it does not take fancy logician training to see, that it is not close to the subject-predicate form of *Nixon: might have lost*. The *Fa, a = b therefore Fb* Leibniz-format is inapplicable. Perhaps substitution of ‘a’ by ‘b’ should still follow, in the now very different indirect discourse form ‘It is possible that: Nixon (the Checkers owner) loses in 1968’. But this is not by *logic* (of Leibnizian identity). The substitution will be grounded in our semantical treatment of indirect discourse locutions and the embedded singular terms. If the substitution is to be denied, as Quine urges, this is because his treatment of the *indirect* discourse locution is in some way quasi quotational and thus crypto *direct* discourse.

2.1.2 Dissolution in de dicto readings. The foregoing final remarks shift us from subject-predicate forms to indirect discourse formulations ‘It is possible that: Nixon loses’ and ‘It is necessary that: 9 is odd’. When Kripke says to Quine ‘use rigid designators and you will not move from true premises to a false conclusion’, he reverses cart and horse; he has now *accepted* Quine fallacious form of argumentation and made the salvaging lifeboat be the deployment of rigid designators.

Quine responds (and this is where the undergraduate students saw that Quine is made to win): wherefrom do you (Kripke) get those rigid designators?

It turns out that to select your *rigid* designators from those that designate non-rigidly, you indulge in (1) assuming across worlds the *identity* of a given thing (e.g., Nixon, the number 9) and (2) you assume modal predications testing for rigidity. As you Kripke say (Quine still responding here) in *NN* 48: Nixon could not have failed to be Nixon, but he could have failed to be the president in 1968. This uses a *de re* modal predication to test for rigidity and we can call this first test the *de re test*. We conclude (from inspecting the occurrence of the two terms in the modal predicate) that ‘Nixon’ is rigid but ‘the president in 1968’ is not. So, says Quine, you presuppose in your *de re* test those ill-fated modal predications to ‘lift’ the rigid designators that are in turn to ground the ... coherence of the modal indirect discourse. A vicious circle.

The story is not over yet, as noticed by the close student readers of *NN* pages 48–9. For now, Kripke uses a *second* test for rigidity, what I will call the *de dicto test*. It is offered on top of page 49, with D as the designator tested for rigidity by the question

Might anybody but Nixon have been D?

The test results are: ‘Nixon’ comes up as rigid (nobody but him could be Nixon) and ‘the president in 1968’ is non-rigid (someone else might have been the 1968 winner). The artificial description ‘The person who actually won in 1968’ comes out rigid.

I note in passing the two – *de re* versus *de dicto* – tests are not equivalent. The first time I taught *NN* as undergraduate class (1984) I gave a question in the final exam – *please find an example which makes a given description rigid on one test but not on the other (assuming Kripke’s views of modal reality)*.

Half of the class came up with examples like ‘Prince Charles’ father’ (those were days of much gossip about Prince Charles and Lady Diana). Nobody but the man Philip (QEII’s husband) could have fathered Charles (viz. as biological sperm resource), but surely Philip might not have engaged in the project of producing an heir. One clever student even suggested ‘Author of Crime and Punishment’, where nobody but Dostoyevsky could have originated that work of art, but the man Fyodor might have decided not to write the novel.

2.2 Back to the Quine-Kripke exchange about *de dicto* indirect discourse

We saw that for *de re* modal forms ‘Nixon might have (possibly) lost’, there is no need for rigid designators. Do we really need rigid designators for the indirect discourse form ‘It is might have been the case (it is possible) that: ... loses in 1968’?

The sentences ‘It is possible that: Nixon loses in 1968’ and ‘It is necessary that: 9 is odd’ are true. How so? The embedded clauses contain certain singular expressions. These expressions name/refer directly to Nixon and to the number

9. The only question is: is the *referent* of 'Nixon', (respectively, '9') such that it is possible that it loses in 1968 (it is necessary that it is odd)? No rigidity has been mentioned. To block any tricks, it is key throughout that the referents in question are those of the English language (not some other chains of connection on Twin Earth) – 'Nixon' in my use refers to Tricky Dick, the Watergate impeached man, and '9' is used to refer to the successor of 8.

Of course, if we were forced at gunpoint to give the semantics of those names (not descriptions!) in terms of *designation*, we would say, yes, yes they are rigid, as indeed are descriptions like 'the successor of 8' or 'the actual winner in 1968'. But barring such gunpoint scenario, 'use rigid designation semantics or else ...!' we do not need to ever mention *designation* – rigid or not; the *referent* of the name (indexical, demonstrative) makes true the indirect discourse modal frame. Definite descriptions do not refer (even if they 'designate') and are not relevant here.

In all, necessity (possibility) – expressed both in *de re* and indirect modal discourse – does not require rigidity. As we saw earlier, to express the modal fact proper, that Nixon might have lost or the state-of-Nixon-losing being possible, we do not need names; we need that the *individual* ascribed the modal feature might have lost in 1968 or that the state involving the individual as losing is ascribed the feature – possibly true. That is all. To understand modal discourse – *de re* or indirect discourse – we need not presuppose rigid designation and a host of truths of essentialist modal doctrines.

2.3 *Necessity in the real world but without merely possible worlds*

We turn now to possible worlds. We must recall our opening Kripke's *NN* page 48 quote about 'the pseudo problems engendered by the set theoretic possible worlds model theory'. Indeed, a theory of the meta logical idea of *validity* for formal modal logics was being fused at the outset with an understanding of *necessity*. Quine said this much. About *this*, he was right.

Twice over: the PW model theory is not a *semantics* of the English modal adverbs (ad-sentences) 'possibly', 'might have', 'necessarily'; in tow, the model theory is not the provider of the *metaphysics* of modality, of what makes up possibilities and necessities. Models are models, devices to evaluate satisfaction of *formal sentences*; possibilities are possibilities, ways *things* might have been.

2.3.1 *Model theory versus semantics versus metaphysic.*

We emphasize how models and possibilities must be kept apart. First, many set-models do not sustain (Kripke-) modal possibilities. Models prime set theoretic combinations, this is how they give us independence proofs. Possibilities – by Kripke's own lights – are not just a projection down from the meta-language of the notion of satisfiability (validity), for example, the analog of 'Nixon is frog' (coded by

atomic 'Fa') is surely satisfiable, but the real world process generating Nixon and generating the species of Frogs bars a possible way of being of Nixon and of the species, in which he *comes from* them-frogs.

So, models are not naturally Kripkean objectual possibilities – ways the things (e.g., individuals, kinds) might have been. The reverse question – are all possibilities set theoretic models? – might seem more rarefied viz. modal possibilities that are not *reflected* in set models. But this reverse quest emanates from the same *source* problem – the real world is not naturally reducible – *fully reflected*-- by a local set model; in turn, various necessities (possibilities) for *it* are missed. One famous problem – in its original set theoretic setup – can give us the flavour: the plurality of all ordinals or sets is not comprehended in a local subunity that is itself a set or an ordinal number. But now let us think of the generalized quantifier *there are absolutely infinitely many things x such that x = x*. This is absolutely true in Reality (just recall the ordinals or the sets, their full plurality), but this truth in Reality does not reflect down to a set model.¹⁹

Now this *truth* is a *modally necessary* truth (as are those of mathematics). Furthermore, being a Reality-truth, it surely expresses a possibility: what is real for things is surely a way for things to be. And yet the set-bound Kripke engineered model theory of (modal) first order languages is by design meant to clip away this infrastructural truth. We here encounter Reality as prior to and generative of the sets/models. The set-models are mere *partial* reflections of this original maker – Reality with capital R – of possibilities. So here we proceed from Reality-first to generated *ways* of that prior Reality – necessities, possibilities, modes/ways *for* Reality.

The possible worlds model theoretic spectrum operates the other way, with *possibility preceding actuality/Reality*. A Kripke model structure has a given a set of possible worlds K and the actual world is one such item in K, the world G. It is further natural to assume this re-presentation of the real world as a local entity, a set, reflects (up to the first order language supposed) the absolute truths of Reality in this local set-up, G.

2.4 Model theory versus modal metaphysics II

This realization – models model Reality only up to the expressive resources of ... the model theory – would have been enough to undo the opportunistic union between modal English and the set theoretic meta theory of validity for formal (modal) languages. But in fact, reading *NN*, there was even more needed separation between modal metaphysics and modal model theory.

¹⁹ I enlarge on these matters of the full Universe (Reality) versus large sets in Almog (2020).

First, as Kripke himself points out in corrective addenda in *NN* (156–160), the model theory of his *Fennica* 1963 paper leads to a *union* of all local PW domains and thus to merely possible individuals – the ‘planet’ Vulcan, the ‘species’ of unicorns. These entities are ill founded metaphysically; the model theory over-generates *singular possibilities*.²⁰

Natural English discourse makes no *reference* to such individual possible worlds, just as it does not *refer* to merely possible individuals like Vulcan; there is no loading process in reality that can ferry to us the non-real Vulcan. Idem for loading and ferrying to my current use the pseudo ‘entity’ (e.g., individual world 17 or individual world 18 or ...). We relate to these worlds by way of a concept/attribute telling us what is true therein. It is a world where Humphrey wins in 1968 and the Beatles do not publish *The White Album* and ...; this is not an individual *entity*, it is a description.

The only individual singularly given world is the real world. This does not mean it could not have gone otherwise, just as the uniqueness of Joseph (there are no merely possible twin Josephs), does not exclude that I-Joseph might have been now in Patagonia. This other *way* of real Joseph is no other individual Joseph*; in like vein, this other *way* of the whole real world is not another world.

Secondly, the possibilist-Leibnizian procedure of priming possibility (necessity) over reality – reality is just one of the possible worlds, perhaps the best among them – is anathema to what I take to be the most lasting observation of Kripke in *NN* about *necessity*. He points out, by working on the mathematical example of Goldbach conjecture, that in grounding necessities, we proceed in three stages: (1) Is claim P actually/really true? (2) Grounds are given for *necessitating* P, viz. If P then necessarily P, (3) we deduce by *modus ponens*, ... therefore *Necessarily* P. Reality – and actual truth of P in it – precedes both necessity and possibility. Only Reality can generate possible ways, its own ways. The possibilities are not new ‘objects’ parallel to Reality, they are *modes of being* of Reality.

Now, of course, we ordinarily say that – possibly/it is possible that there would be purple cows. This does *not* entail that there are *actually* purple cows. But it does entail (and require) that *actuality* has the ingredients – *purple* and *cow*, of which such a *subsequent combination* is possible. If *purple* and *cow* are further decomposable, fair enough: there will be ingredients that are not further conceptually decomposable,

20 Kripke 1963. Kripke uses such individuals to give counterexamples to the famed “Barcan formula” $AxNecFx \rightarrow NecAxFx$. In our view, expositions of the result confuse metamathematical claims of independence (from an underlying quantified modal logic) and a claim of genuine possibility. The “extra” individuals witness consistency but are not genuine possible ways of the real world. See more in this vein in our footnote below about forcing model-extensions and non-standard models of arithmetic.

a ground zero ingredient, a real existence, *whose ways* are the eventual combinations. The full real world is such a (the!) ground zero object.

2.5 *Necessity without conceptual essence*

In discussing his *modus ponens* mechanism, Kripke tells us that the stage of *necessitation* – if P, then Necessarily P – turns on *philosophical analysis* proceeding a priori. Kripke himself advances what is in effect a ‘principle of predication’ (discussed already in the fifties in the foundations of QML). We divide properties/predicates into formal and material, Kripke might say *essential* and not. For example, ‘successor of 8’ and ‘numbers the planets’ both apply to 9, but the former is of the essence, the latter not. In like vein, we could say ‘made of hydrogen’ and ‘fills lake Baikal’ are features of water, the former *essentially*, pertaining to the very constitution of water, the latter not. The division into types of features is philosophical and thus a priori.

After Kripke’s *NN*, others, like Kit Fine, have developed a notion of essence that is conceptual and a priori whereby we might see how essence *grounds* necessity.²¹ A bit earlier, I offered quite a different approach to *fundamental* features, but one that is concept-free, viz. anchored in the real world’s *existence* and its unfolding cosmic processes. It not only excludes the apriorism of *necessary* truths (modulo the first premise P in the modus ponens mechanism) but excludes the very a priority of *any* truth. No truth – if *world-made* truth it is – could be known a priori. I believe this result should have been drawn by Kripke (as indeed hinted above, following Donnellan, about any singular truth-knowledge, e.g., knowing that Neptune is self-identical). I now globalize this result, driven by ideas, if not theoretical developments of ... Kripke.

2.5.1 *What a thing is versus essence versus necessity.* In the late 1980s, I was composing an essay in metaphysics called ‘The What and the How’.²² One aspect was a critique of Kripke’s *NN* notion of *essence*: the notion of *what* a thing is (e.g., what water is: H₂O) cannot be glossed in modal terms of necessity as done by Kripke and his modalized essences. But stronger yet, even if we de-modalize essences, the essences (e.g., as in Kit Fine’s work) cannot provide an account of *what* a thing is. In this context, I grew unhappy with an a priori/conceptual approach to necessity (and essence). The reasons were twofold.

First, driven by the material above from singular truth-epistemology (‘Neptune is...’), I was convinced that no singular (worldly object or kind involving) truth could be known a priori.

²¹ Fine 1994.

²² Almog 1991.

In *NN*, Kripke's stance seems oddly enough protective of singular a priori truths. 'Oddly enough' because Kripke is celebrated for blocking Kant's alleged two-way collapse of necessity and apriorism. Actually and surprisingly, Kripke lends a *supportive* hand to securing a priori truths. Yes, we do not know a priori that Hesperus is Phosphorus or that water is made of hydrogen or that my origin is in zygote Z. But we do know *a priori* these necessities *modulo* one *a posteriori* parameter viz. the actual truth/falsehood of the premise P in the *modus ponens* mechanism.

My thought was that Kant would not be shaken to learn we have to examine water to register that it is made of hydrogen. What remains key for Kant is that the *modalization step* – the necessitation after the empirical peek at water – is done by a priori reasoning, be it conceptual dissection (analysis of concepts leading to analytic truth) or via synthesizing intuition (as in synthetic a priori truths). To me, Kripke seemed to *sustain* Kant, not refute him.

This was an odd revelation because the key observations of Kripke and Putnam on how little is carried 'in the head' militated *against* this apriorism (which indeed Putnam never indulged in).

For example: If I know that chemical structure (at the molecular level) is fundamental, thus pertains to what water is, and that my origin in a certain zygote is fundamental, this is not knowledge from concepts or intuition, even if we allow an extensive Kantian use of the term 'intuition'. I surely cannot use *semantical* truths to reveal that this is indeed a feature pertaining to *what* the thing (kind) is. All in all, one expected *NN* to side with Putnam and favour all singular necessities (indeed, all singular truths) not to be a priori.

2.5.2 The basis of necessitation. I recall discussing in the mid-1980s with Nathan Salmon, just back from Princeton, his crystalline dissertation in which there is an appendix discussing such necessitations. Related were a few long dinners with the late Keith Donnellan, who was the inspiration of Nathan's thesis discussion (the discussions must have been circa 1985–1986). Keith kept saying that what matters as fundamental in biology or chemistry or physics is not known a priori. Keith knew chemistry well and illustrated how this science slowly discovered what is fundamental to the fabric of materials, surely not proceeding by conceptual analysis or synthesizing intuition.

What Keith worried about was rather on the other side: Kripke must be right about mathematics, as in Goldbach conjecture, for here, we know 'automatically' of any mathematical claim, that if it is true, it is necessarily so. This automaticity of projection suggested apriorism.

I did not share this worry of Keith: mathematics is exactly – in this respect – like chemistry; it is not true that every old property (say of natural numbers) is of the essence or the very concept of natural numbers or known by intuition viz.

known in advance to the actual science of number theory and its grounding in deep and non-transparent conjectures of algebraic geometry and algebraic topology.

Likewise in the (seemingly!) most conceptual branch of mathematics, set theory, the correspondence between stronger and stronger large cardinal axioms and forms of determinacy of infinite games, is not due to a priori analysis. In general, deep correspondences cutting across seemingly disjoint mathematical fields are not a priori available. Trial and error reveals to us where the fundamental seams lie.

Driven by Donnellan's hunch that what is fundamental to what things are is not conceptually available, I developed my Kripke critique in the 1991 'The What and the How' by laying down two, out of ultimately three, principles; the third was to come in a decade later to underlie the first two.²³

The two early ideas about *what* a thing is were:

- (A) What a thing is is not given by a conceptual essence.
- (B) What a thing is – the (little 'n') nature of the thing – is *generated* via the worldly process – Nature (with capital 'n')'s process – of bringing it into the world.

(A)–(B) were enough to reconfirm the above philosophy of mind and language conclusion – in the above section on Naming – that no *singular* truth involving a worldly object or kind, physical or mathematical, is genuinely given a priori, independently of contact with the world.

It is only the world process generating object x or kind K that *revealed*, by way of science, what the (nature of the) thing is. It is not by dissecting my mind (Putnam: 'what is in the head') that we would understand *what* worldly things were; it is rather the worldly things – water, gold, the natural numbers, the real numbers, the countable ordinals, and so forth – that *determine what* it is I am thinking of when I think *of* water (etc.). What the world determines in making the thing (s) x – say water – soon determines by further world transfer processes *what* it is for me to be *thinking* of x, for example, of water.

2.6 Whatness/nature versus essence

Readers of 'The What and the How' confused (i) my critique from the notion of *whatness* of Kripke's modal account of essence for things/kinds with (ii) Kit Fine's account – that emerged a bit later – of the *essence* of things. Both of our developments were orthogonal to Kripke's *modal* analysis of essence. Both accounts were *pre-modal*. But they were not pursuing equivalent ideas; I thought

23 "The What and The How" JPhil. 1991 op. cit.

the Kit Fine type of Aristotelian (categorical) essence is not the correct account of what a thing is, and I am sure Fine thought – by thinking like Aristotle – that what a thing is is its *essence* – that my real-world *process* account of whatness is misguided (Fine said so at the end of his slightly later publication).²⁴

Fine's conceptualist essence theory took the discussion in one direction: a conceptual-analysis grounding of necessity; indeed, he did not hone in on Kripke's idea of *process of origination* of things but on Aristotelian classificatory super-ordinate essences. My *demarche* was orthogonal, away from any shades of conceptualism; it is the *process* that originates QE II that makes her of this species – human beings, very differently from Aristotle-Fine selection of superordinate categorizations as primary. Fine's oft cited case of (the set) singleton Socrates having the *defined* essence that it is *the set whose sole member is Socrates* – was resting on a *real definition* of the entity. In my later discussion of Kit's essentialist philosophy, I explain why on my outlook it is *existence*, not essence, that is the whatness-determiner – as with the zygote generating my existence, it is the process of bringing singleton Socrates into the world that determines what it is.²⁵

In contrast, I do not think any such mathematical entity or plurality thereof – the natural numbers, the real numbers, and so forth – is 'conceptually definable'. The fact that a second order axiomatization produces an isomorphism class of set theoretic structures (models) may manifest the ... *essence*. But as I read Dedekind, he himself insisted on not so understanding *what* the natural numbers 1,2,3 ... are (not to be confused with the set theoretic type 'omega sequence'). Dedekind urged us to go beyond the isomorphism class for any two omega sequence structures. The natural numbers in se require an *existence argument* that there is *in reality* such a *generated* simple infinite system of 1,2,3 ... I will not here develop the mathematical case(s), to which various pieces of mine have been dedicated.²⁶

Instead, I thought in the 1990's how to give the account of what things are, also the *nature* of things, without any shades of conceptualism left in the Kripke-necessities, for example, his projection of necessity from conceptually given essences. A potent example of such percolating conceptualism is very present late in *NN* in his *purely qualitative* essence of pain, an account I criticized by viewing what pain is as *necessarily connected* and by a generative act of Nature – to brain processes.²⁷

24 Fine 1994.

25 Almog 2020

26 Almog 1999, revised in 2010, regrounded in 2020.

27 Almog 2002.

2.7 *The universe generating what things (kinds) are*

What is key to the idea of what a thing (kind) is is what *The World/Nature* has to do – what *world action* is determinative in generating this thing. This added the third primary idea – an idea about the global-whole world – that complemented the above local (A)-(B). The impending principle below, [C] is a strengthening of [B] above.

Nature – itself, with capital n – or The Universe/The World (with grown capitals), is the prime real object that generates locally the little n natures, for example, the nature of water or tigers or Nixon. This globalist idea was encapsulated in ‘Nature without essence’ (Almog 2010): Nature/The World generates local natures (none of which are conceptual essences). The nature of Elizabeth II is the unfolding of prime Nature *at* Elizabeth or more generally:

(Nn) Global Nature at x is the local nature of x.

This sustains a ‘fundamental theorem of being’ (read this on the analogy of those of arithmetic, algebra, etc.), our final third principle:

[C] Every downstream local being x (e.g., Mt. Blanc, the tigers, water) is a distinct unfolding of the prime global being, Nature/The Universe

Principle (C) is inspired by Kripke’s ideas of origin. But notice two key contrasts:

- (1) We do not cast this as a matter of *essence*.
- (2) Unlike Kripke (*NN*, fn. 56), we do not aim at a *proof* that the origin of a thing x is necessary to x.

Quite the contrary; the universality of origination processes as determiners of whatness-es is not material for a downstream *theorem* as if deduced from something more primal. In the present frame, it is rather the most fundamental principle of worldly metaphysics. The world (as a whole) is not only an objectual unity but it is the *primal* unity – if the world was not an objectual unity, Nixon, a mere local unfolding of the world here, would not be a local objectual unity. Objectual unity is something inherited – by reality-transfer – from the prime objectual unity.

2.8 *Ways the world might have been*

This flight from models, possible worlds and conceptual essences and into cosmic processes of The World itself, The Uni-verse, with the morphology strictly meant, a *unique* verse, re-located the investigation of modality. We now focus on *ways-of-being* of The World, that primal objectual unity that generates all the subsequent ways, *its own* ways. We do not think any more of possibilities or

ways things might have been as ‘other worlds’ in parity with and parallel to Reality. The ways the world might have are like ways Nixon might have been: Nixon is in the category of objects, his ways are subsequent, in the category of *properties* of that object; in like way, the world is the ur-object and its actual ways are *properties* thereof. In turn, alternative ways it might have developed are properties thereof.

2.9 Necessity without contingency

The rethinking of modality away from possible worlds and models, as well as away from conceptual essence, viz. as determined by the unfolding of The World, led me to re-examine Kripke’s famous – but as if *automatic* – truism: Nixon might have lost.

I do not say what follows as a result of a change of heart about some doctrine of free will. Let us leave free will out of the discussion. My realization could be cast for non-mental agents, for example, Kripke says – Neptune might not have caused Uranus’s perturbations. I asked myself: How so? By principle [C], for Neptune not to cause the perturbations, there had to be a *global universe covering* – the world might have unfolded without engendering locally Uranus or Neptune or the latter causing the former’s orbit perturbations. It did not seem so obvious anymore that such a world-unfolding alternative *process* was so automatically on hand.

There are *models* of mathematical theories of the cosmos allowing various parallel developments; in turn, there is nothing in any conceptual essence for the world – if such there be – that forces Neptune’s action on Uranus or the 1968 elections coming out with Nixon as winner; it seems that if there was such a world-essence, it would be *consistent* with various alternative local unfoldings.

But this level of *epistemically* available concepts and essences is not where the worldly things – individuals, kinds, and properties – of the world are *determined*. It is the world’s own process that determines by its own unfolding the local whatness-es /natures.

2.10 Apparent contingency?

Interestingly, Kripke himself struggles in lectures II-III (culminating in *NV* 140) with *apparent* contingencies: it might *seem* that my concept or essence associated with ‘water’ allows that the liquid picked out turns out to be made of xyz, for example, fool’s water on TE. Kripke provides an *error* theory: what *truly* makes *this* liquid – viz. water, is a process of covalent bondage of hydrogen hydroxide molecules formed out of oxygen and hydrogen (at the right physical neighbourhood). The process of cosmic Nature generating water involves various stages of generation: first hydrogen, then oxygen, then the solar system, then the

right planet, then the right compounding of molecules on the planet, and so forth. Nature unfolds here and there in Space to make the local nature (whatness) of water. In time, the overall molecular states sustainable in space might exclude such molecular bondage; and water, no less than dodos, will be out and out.

When Kripke speaks *de jure* (NN, 140–144), he admits water *itself* – viz. H_2O , could not turn out other than H_2O . What could turn out is not involving the *stuff* (de-re) but that a *dictum* ‘water is H_2O ’ turns out false in an evidential situation that is from inside the head not discernible. We can say ‘water is not H_2O ’ is verified on Twin Earth (TE). I would not say – as we often do say – it is consistent with what we *know* that water is not H_2O because we do *know* that water *is* H_2O . But the sentence form ‘Water is H_2O ’ could turn out false on TE; in the envisaged set up/model, it is *not* the *stuff* *water* that is the verifier of predicate ‘not H_2O ’.

This apparatus is used by Kripke for cases in which there is an underlying *de re* necessity: water’s being made of H_2O . At the *de dicto* level, there is a *sentence* that *seems as if it could be* true while denying this *de re* necessity. But the *de dicto* possible falsehood of the sentence is not based on the *necessary de re* predication of the stuff, water. For Kripke’s error theory, the concern is not so much the predicate applied (necessary or not) but the *appearance* of the subject stuff, the appearance of water referred to on earth which is the very appearance of xyz referred to on Twin Earth (TE). Evaluating vis a vis that other model viz. the TE determining chain, ‘water’ refers to XYZ. Whatever we now predicate – necessary or contingent – applies in that model to XYZ.

I have come to think that my early metaphysical contingency-liberalism about ‘Nixon might have lost’ or ‘Neptune might have not caused Uranus’ perturbations’ is exactly this kind of *apparent* possibility for the world.

The new default is that the world’s processes generating Nixon’s 1968 winning and the Uranus perturbations are of the very nature of the events (states) produced. But there is a model – a Twin Earth setup – where we could say easily with a smile, of course, we can verify that the world might have gone on without a Nixon victory or perturbations of Uranus by Neptune. But we are over-easy about this possibility, as if we state a *de re* possibility for the real world. What is true is that the *dicta* ‘The world has a Nixon loss in 1968’ and ‘The world has no Neptune perturbations of Uranus’ can be verified by such twin models that seem consistent with the internal evidence as we have it up to a point.

I do not assert that there is of necessity only one way of unfolding for the world, the actual way; that all *apparent* contingency is indeed *merely* apparent. But I do think the *relocating* of necessity to the world’s own unfolding, away from our concepts or other possible worlds, is fundamental. The appearance that things could have gone otherwise is fed by our *epistemological localism*, viz. *our*

abstracting away from the full history of the real world. The local things spoken of – Nixon, Neptune, and so forth – are not anchored in the global world unfolding; in particular, they are not seen as the end result of the world’s unfolding here and there.

2.10.1 Possibilities: mere combinations or ways of reality?. This way of thinking of possibilities as ways of development of the one and only Reality is inspired by Kripke intuitive reflections on origin but not by his formal work (see fn. 56) and his reductions of ways of Reality to ‘possible worlds’. Kripke himself presents to us possible worlds (*NN*, 16–20) and in the formal work on origin (fn. 56) in a combinatorial way: possibilities are independent combinations. A simple example is given by *probability* computations of 2 six-faced dice and their maximal combinations of 36 possibilities. Every ‘elementary school child’ would see this range of possibilities, says Kripke.

Indeed. But these possible worlds are mere lines in algebraic matrices abstracting from substantial processes and keeping to *bare independent* individuals, Die A and Die B. But Nixon and Neptune and the esteemed Queen Elizabeth are not bare dice, with a priori-given six sides. They are world-made, thus world-determined. They are never independent of the network of cosmic processes that generated them.

Once we anchor each thing and kind in cosmic processes of the full global unfolding of the world, it is not obvious that *things* could have gone otherwise, although *dicta* can be made true by such twin models supporting the sense of an alternative. Not only could I not be Kripke’s grandfather but I could not fail to write this paper about Kripke right now. The dictum ‘I fail to write this paper about Kripke right now’ is surely consistent (no ‘internal’ contradiction) and stays so even when we pack up a background theory satisfying much about JA’s actual history.

2.10.2 Possible ways of reality versus models of evidence. In all, we encounter here a unified pattern running from the automatically necessitable – as in mathematics – to the other pole, the naturally contingent, as reputedly with a man’s (free) action, for example, ‘Nixon won but he might have lost’. We confuse (1) what is open to the entities proper by the unfolding processes of the world (*de re*), with (2) constructing a truth-evaluation (model) for a *dictum* as false. Often the dictum is made false by other than the original entities but preserving *appearances* or the dictum is assessed merely for all the ‘internal-qualitative evidence’ we allow ourselves.

2.10.3 Summary of necessity without naming. My summary here is more complex than in the Naming part. In the earlier summary, all that was observed was

the need to separate naming from designation and, in particular, modal matters of rigidity. Then, I submitted, a theory of naming/referring for natural language must be launched in earnest. The notion of naming/referring itself is fundamental.

When it comes to necessity, I proceed instead in two stages. The first stage mimics the conclusions in the naming part. The notion of Kripke (*de re*) necessity is independent from any involvement with theories of designation, in particular rigid designation (which will only serve Quine to accuse us of a vicious circle). Furthermore, the truth of *de re* necessity claims need not call on referring names, even when those are cast in a rigidity-free way. The necessity of Nixon's humanity or origin in zygote N has to do with cosmic processes, not with how the semantics of terms for Nixon-like objects is set up. So much then for stage 1; we have full necessity (*de re*) without naming or rigid designation.

Enters now stage 2. Whereas naming/referring itself (segregated from necessity) is a substantial notion – I dare say, indispensable notion – for our account of language and thought, I have come to think necessity is not *fundamental* to our metaphysics of the world.

Perhaps it is here that Quine had it right, even if his 'logically authoritative' anti-modality arguments were flawed. The notion of necessary relation or necessary objectual fact strikes me as a remnant of a Kantian attempt to jump start *philosophically* the study of cosmic nature. The philosopher is defending his 'job' by forcing questions of apriorism and necessity, questions for which the new enemy, the Nature-scientist, cannot serve as replacement. If criticizing this attitude was what Quine was after with his *intra cosmic* naturalism, so much the better. We can only say, given this Nature-bound orientation, Quine should not have placed so much focus on disqualifying modality by 'logical arguments'.

But now a shadow may seem to threaten *NN*'s legacy: if this idleness of necessity – as of a priorism – is ultimately metaphysically correct, does this not taint the importance Kripke placed on saving necessity from Quine's sniping?

The outlook I urge 40 years later is that Kripke's lasting contribution – and the way he *did* stand analytic philosophy upon its ear – was not to save *necessity* and surely not by means of set theoretic possible worlds models (that were very helpful in understanding the *meta* theory of quantified modal logics). Kripke's lasting contribution was and is away from constructed models. It lies in re-focusing us back on Reality. He undertook, with Putnam, steps to re-unify metaphysics with the deeper facts of natural science and mathematics. Kripke's *examples* display the formative role of cosmic processes of generation, the fundamentality of cosmic invariants, the significance of *constitutive* facts to the nature of cosmic materials: species, chemical substances, atomic elements, and so forth. As with Putnam's examples, the unmatched sense of the duo *where to look* for the key

cases had Kripke direct us towards the *whereabouts* of metaphysics. It is neither in naming nor in necessity. It is rather in something more fundamental yet, preceding both naming worldly things and alleged *de re* necessities involving the things. The *fundamentum* here is in the *actual* cosmic stuff making up the universe viz. in the contrast between the real water and gold versus the absent Phlogiston and Kryptonite, in the actual species of tigers versus the no-species of unicorns, in the causally effective Neptune versus the merely posited Vulcan. The whereabouts of metaphysics is where the metaphysical action takes place, viz. the one and only Reality there is.

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