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History of Essence: 20th Century Analytic Philosophy

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This paper provides an overview of the history of the notion of essence in 20th century analytic philosophy, focusing on views held by influential analytic philosophers who discussed, or relied on essence or cognate notions in their works. It in particular covers Russell and Moore’s different approaches to essence before and after breaking with British idealism, the (pre- and post-)logical positivists’ critique of metaphysics and rejection of essence (Wittgenstein, Carnap, Schlick, Stebbing), the tendency to loosen the notion of logical necessity to accommodate certain metaphysical truths in Wittgenstein and others, Quine’s logical rehabilitation of metaphysics and criticism of de re modality, the modal view of essence promoted by the development of quantified modal logic (C. I. Lewis, Barcan Marcus, Kripke) and direct reference theory (Barcan Marcus, Kripke, Putnam), and the emergence of the notion of metaphysical necessity (Kneale, Kripke), and finally Fine’s re-establishment of a Neo-Aristotelian, hyperintensional notion of essence in contemporary metaphysics.

1. Introduction

Due to the strong influence of logical empiricism, the notion of essence seemed like a relic of the past to many analytic philosophers working in the first half of the 20th century. Yet, at the beginning of the 21st century, analytic philosophers considered the notion worthy of serious discussion and even relied on it in philosophical explanations and theories. This chapter gives a roughly chronological

overview of the history of essence in 20th philosophy in the analytic tradition, focusing on a number of important developments leading from the logical positivists' opposition to essence to its current renaissance in analytic metaphysics and beyond.

Not every use of the word "essence", or sometimes also "nature" or "identity",[1] evokes the metaphysical notion of essence. Likewise, not every essentialist view is described as such. It is indeed difficult, perhaps impossible to pinpoint a single notion of essence present in all discussions of essence and essentialism in 20th century analytic philosophy. What one can do instead is to distinguish a number of distinct conceptions of essence which, to use the later Wittgenstein's term, are connected by relations of family resemblance. According to the first, Lockean, conception, the essence of a thing is its internal constitution which determines its discoverable qualities but is, like Kant's objects in themselves, itself beyond the grasp of our senses. This conception appears in anti-essentialist remarks by the early Moore and Carnap, serving as a quickly dismissed foil, and later reappears in the philosophical and psychological literature on psychological essentialism. The second conception is Aristotle's. It is discussed in some detail by Stebbing and in contrast to the first conception emphasizes a direct connection between essence and definition. The third, which is found in the works of Barcan Marcus and Quine, conceives of essence in terms of the notion of necessity captured by the necessity operator of first-order modal logic and characterizes particular essentialist claims in terms of particular theorems or semantic posits about this logic. The fourth, which is, with good reason, retrospectively attributed to Moore by Kit Fine, defines essence in terms of necessity. The fifth is Fine's own neo-Aristotelian conception, according to which essence is a primitive notion which can be used to define necessity.

[1] (Fine 1994), (Lowe 2008) use them interchangeably, (Almog 2010) distinguishes "essence" and "nature".

2. Essence and the birth of analytic philosophy

2.1 Russell

Russell and Moore's revolt against the idealist metaphysics dominant at Cambridge around the turn of the 20th century is an important part of the founding myth of analytic philosophy.[2] Their conversion to analytic philosophy impacted both Russell's and Moore's attitude towards essence, but as we will see, in different ways.

In his first publications, Russell was still suffering from, as he much later put it, being "indoctrinated with the philosophies of Kant and Hegel" (Russell 1959: 11) at Cambridge. While these works were not focused on essence, Russell freely used essentialist terms in them. Discussing geometry, Russell for example writes that "points are wholly constituted by relations, and have no intrinsic nature of their own." (Russell 1896: 15) Similarly, he explicitly refers to the essence of quantity and of space in his discussion of quantity and number in (Russell 1897b: 331), and to the essential properties of space in (Russell 1897a), §61 and §80.

Russell's break with idealism meant that he also took a critical stance towards certain essentialist views. He was deeply impressed by the new logic developed by Frege and others and recognized that it could serve as the backbone of a new, scientific philosophy which fundamentally questioned many traditional philosophical ideas and theories (see Russell 1914: 191ff). Like Moore, he in particular opposed the Cambridge Idealist's "axiom of internal relations", the claim that "Every relation is grounded in the natures of the related terms." (Russell 1907: 37) Russell explicitly linked the notion of nature to that of a "scholastic essence," (Russell 1907: 44) but it is not evident from his arguments against the axiom and the metaphysical holism linked to it (Russell 1907; Russell 1912: ch. 14), whether he took it to have the modal dimension characteristic of contemporary essentialist views.[3]

Russell much later took a more clear-cut anti-essentialist stance in his *History of Western Philosophy*, where he objects to Aristotle's conception of essential properties as properties

[2] See for example (Preston, n.d.: section 1).

[3] Cf. (Russell 1912: 84) and (G. E. Moore 1993a: 103). The modal character of the axiom was brought out more clearly by Moore and later also by Ayer (Ayer 1952: 146ff).

which a thing "cannot change without losing its identity," since he considered this conception "a transference to metaphysics of what is only a linguistic convenience." (Russell 1946: 193) Russell thought that the only way to make sense of essence is to treat "essence" as a synonym of "nominal definition": "In fact, the question of 'essence' is one as to the use of words[;] a *word* may have an essence, but a *thing* cannot." (ibid.)

2.2 Moore

In his second dissertation *The Metaphysical Basis of Ethics* (Baldwin and Preti 2011: 117ff; submitted in 1989), G. E. Moore lauded Kant for having "pointed out that there is nothing absolutely 'inner' in the objects of experience" and for giving "the final blow to the doctrine of 'essences' and 'faculties', as principles of explanation." (Baldwin and Preti 2011: 223) However, while Moore rejected essences as explanatory entities, he accepted necessary connections between consecutive states of the world, i.e. between distinct entities. He thereby opposed Hume, implicitly embraced something resembling a traditional essentialist view and even approvingly linked these necessary connections to the Aristotelian notion of formal causation.[4]

Moore's main discussion of essence is contained in two papers focused on the notion of intrinsicality, or the equivalent notion for relations, internality. The first, "The Conception of Intrinsic Value" (G. E. Moore 1993c), was written between 1914–17 and first published in 1922[5] as a companion piece to his *Principia Ethica* (G. E. Moore 1993b).[6] A crucial claim in the paper is that value-predicates depend solely on the *intrinsic nature* of the things which have them.

The notion "nature" on which Moore relies in this and his second paper on intrinsicality, is amodal. He defines the nature of a thing as "all its qualities as distinguished from its relational properties."(G. E. Moore 1993a: 103) However, his main focus is on the modal notion of intrinsicality, which he uses to define intrinsic value:

[4] See (Baldwin and Preti 2011: 52).

[5] See (G. E. Moore 1993c: p. 280, editor's note).

[6] See (Hurka 2015: section 2).

> A kind of value is intrinsic if and only if, [...] when anything possess it, that same thing or anything exactly like it would *necessarily* or *must always*, under all circumstances, possess it in exactly the same degree. (G. E. Moore 1993c: 290)

Moore spends a significant part of the paper trying to get at the notion of necessity involved. This notion is unconditional and neither identical to causal, nor to logical necessity. (See (G. E. Moore 1993c: 294, 291–292, 295)) His example of a necessity of this sort concerns color: "if a given patch of colour be yellow, then any patch which were exactly like the first would be yellow too." (G. E. Moore 1993c: 295) His discussion ends with the remark that "what precisely is meant by this unconditional 'must,' I must confess I don't know." (G. E. Moore 1993c: 295) From a contemporary perspective, there seem to be two ways to answer Moore's implied question: He might have been looking for what we now call metaphysical necessity (see (Baldwin 1993: xxiii-xxiv), or instead for a sui generis notion of normative necessity (Fine 2002: 259).

Moore's second paper of interest is "External and Internal Relations" (G. E. Moore 1993a). It was first published in 1922 and directly engages with the axiom of internal relations. In it, Moore argues that the fact that some relations are internal does not imply that all of them are, pace what defenders of the axiom thought. The connection to essence is apparent in Moore's definition of intrinsicality: A relational property Φ is internal to an object A if, and only if, $(x = A)$ entails Φx. Moore paraphrases the definition as saying that "A could not have existed in any possible world without having Φ," (G. E. Moore 1993a: 92) and later in the paper writes that the definiens is equivalent to the claims that it is a necessary truth that $(x = A) \supset \Phi x$, where "$\supset$" stands for material implication and, adopting what is sometimes called a "weak" notion of necessity, to the claim that it is a necessary truth that ΦA. (See (G. E. Moore 1993a: 99).)

As (Fine 1994) points out, Moore's definition of internality is in fact a version of the modal view of essence which defines essentiality in terms of necessity. Still, it is important to point out a subtle difference to the contemporary version of the view. In his earlier paper, Moore struggled to identify the kind of modality involved in his definition of intrinsic value. His discussion of the notion of entailment reveals a similar struggle. Opposing Russell, Moore clearly distinguishes entailment from material implication (see (Baldwin and Preti 2011: 100) and characterizes it as a relation between properties, such as red and colored. (Baldwin and Preti

2011: 90) On the other hand, Moore also writes that entailment is the relation "which holds between the premisses and conclusion of a syllogism in *Barbara*" (Baldwin and Preti 2011: 101) and approvingly cites the anti-psychologists about logic of his time. Moore's work on intrinsicality hence highlights what would become a recurring motif in early analytic philosophy, namely the struggle to explain the necessity of certain truths which the early phenomenologists called material necessities or laws of essence (see chapter I.05,1) from a perspective critical of traditional metaphysical theorizing.

3 Logical empiricism and post-logical empiricism

3.1 Wittgenstein

In the 1920s and 30s, the most important group working in what has become known as analytic philosophy was the Vienna Circle. (See (Uebel 2021).) While not part of the Vienna Circle himself, Wittgenstein heavily inspired its members. In his *Tractatus Logico-Philosophicus* (Wittgenstein 1922), Wittgenstein made frequent use of essentialist language,[7] but it is important to note that he was committed to the doctrine that "[t]he only necessity that exists is *logical necessity*." (Tractatus §6.37.) For Wittgenstein, essence was closely connected to logical form, which in the Tractatus not only pertained to language, but also to the world.

Wittgenstein too struggled to fit certain necessary truths into his philosophical system. The problem manifested itself in the Tractatus in form of the color exclusion problem. This problem arises due to two conflicting commitments, namely to the logical independence of atomic states of affairs (§2.061) and to the logical necessity of exclusion relations between colors (§6.3751). The only paper he published in an academic journal, "Some Remarks on Logical Form" (Wittgenstein 1929), was an attempt to solve this problem. In the paper, Wittgenstein argued that we sometimes discover logical form only "*a posteriori*, and not by conjecturing about a priori possibilities." (Wittgenstein 1929: 163) He suggested that the logical form of color sentences involves numbers representing coordinates in a color space, so that "[o]ne shade of colour cannot simultaneously have two different degrees of brightness or redness." (Wittgenstein 1929: 167.) Echoing Moore, Wittgenstein assumed "that the relation of difference

[7] See in particular §2.011, §3.1431, §3.3421, §4.03, §5.471, §5.4711.

of degree [e.g. of brightness or redness] is an internal relation." (Wittgenstein 1929: 168.) His attempt to solve the problem by modifying the notion of logical form however stretches this notion beyond its limits, as it leads him to assert that the "definite rules of syntax" of a "perfect notation" would prescribe that "there is no logical product[i.e. conjunction]" (Wittgenstein 1929: 171) of incompatible elementary color statements, de facto putting them outside the scope of logic. Given the heavy cost of the solution, one could say that Wittgenstein failed to find a place for what others considered essential truths in his early philosophy.[8]

3.2 Carnap

Before becoming one of the core members of the Vienna Circle, Carnap set out to realize the vision of scientific philosophy aired in the programmatic remarks at the end of Russell's *Our Knowledge of the External World*.[9] In his book, *Der logische Aufbau der Welt* (Carnap 1928; English transl.: Carnap 1967), Carnap presented a framework for what he took to be the only scientifically adequate methodology for doing philosophy, constructional theory.

The task of constructional theory was to construct constructional systems, hierarchical systems of definitions, built up level by level in order to rationally reconstruct the whole of scientific knowledge, using only logical vocabulary and a small number of basic, non-logical concepts. Carnap thought these systems to be by design unfit to address "problems of essence," (see part V, ch. A) i.e. traditional metaphysical problems like the mind-body problem, since he took these problems to be outside the realm of science. (See § 182.) The "metaphysical" notion of essence likewise had no place within constructional theory. Carnap did admit talk of "constructional essence" by courtesy, but for him, this was just a somewhat misleading way to refer to the logical definition of the relevant concept within a constructional system. (See § 59, § 161.)

Carnap strengthened his critique in his 1932 paper "The Elimination of Metaphysics Through Logical Analysis of Language" (Carnap 1959). There we find "essence" on a list of "*specifically metaphysical terms [which] are devoid of meaning*" (Carnap 1959: 67) which are used in "[t]he alleged statements of metaphysics which […] have no sense, assert nothing, are mere pseudo-statements." (Ibid.)

[8] See chapter IV.05 for a more detailed discussion of essence in Wittgenstein.

[9] See (Schilpp 1963: 12).

Carnap's early anti-essentialism was at least partly motivated by his commitment to extensional logic. He would later abandon the strictly extensional standpoint and contribute substantially to the development of modal logic in *Meaning and Necessity* (Carnap 1947), a book which paved the way for developments in this area which proved to be of crucial importance to the discussion of essence.

3.3 Schlick

Schlick, the founder of the Vienna Circle, was also no friend of essence. In his *Allgemeine Erkenntnislehre* published in 1918, Schlick opposed the phenomenologists' claim that we can "see" essences. He cited Bergson and Husserl as philosophers who wrongfully distinguish the empirically founded conceptual knowledge of the natural sciences from a genuinely philosophical kind of knowledge pertaining to essence which can be acquired through intuition. (See (Schlick 2009: 291).)

In his 1932 paper "Gibt es ein materiales Apriori?" (Schlick 2008) Schlick argued against the existence of the material a priori, the category to which the essentialist judgments which are supposed to result from so-called essential seeing belong. Schlick's arguments are based on the logical empiricist thesis that there are only two kinds of sentences, those which express judgments which are synthetic and a posteriori, and those which express tautologies and are both analytic and a priori. (See (Schlick 2008: 462).) Pace the phenomenologists, he insisted that sentences like "The same surface cannot be red and green all over." are a priori, but not material. (See (Schlick 2008: 461).) Drawing on Wittgenstein's *Tractatus*, Schlick argued that such sentences are "purely conceptual in nature, their validity is a logical one, they have tautological, formal character" (Schlick 2008: 466; my translation) and drawing on (Wittgenstein 1929) he argued that the "logical grammar" of color words guarantees that the same property cannot be designated by two distinct color terms like "red" and "green". (See (Schlick 2008: 469).)

3.4 Stebbing

Stebbing helped popularize the views of the members of the Vienna Circle in the UK, but was not uncritical of them. She did however share their negative attitude towards essence. Her *A*

Modern Introduction to Logic (Stebbing 1942), contains a critical discussion of Aristotle's theory of definition, which is more detailed and shows more historical awareness than Carnap's or Schlick's brief discussions of essence.[10] Besides discussing the connection between essence and definition, Stebbing states that according to Aristotle, "[w]hat is essential is necessarily related to the subject, what is non-essential is accidentally related to it," (Stebbing 1942: 429) that essential characteristics make something the thing it is, and that they are indispensible to it. She also points out that Aristotle's notion is an undefinable, fundamental, theoretical primitive (p. 430), and discusses the medieval distinction between essence and propria which Fine later linked to his distinction between constitutive and consequential essence (see (Stebbing 1942: 430; Fine 1995b)). Her discussion also mentions the generic nature[11] of the Aristotelian notion of essence: the subject of Aristotelian definitions are species, or concepts, not names (see (Stebbing 1942: 430, 432)). This is noteworthy, since many later discussions, including Fine's most influential paper, focused primarily on the essences of particulars (see also chapter II.03).

Even though Stebbing's discussion is explicitly historical, it contains a number of (partly enthymematic) systematic criticisms. She in particular argued that Aristotle's distinction between essence and propria could not be generalized beyond mathematical subject matters and that even concerning them, the distinction cannot be understood in terms of demonstration, as intended (See (Stebbing 1942: 431)). She also points out that Aristotle's assumption that "essence is fixed and unalterable" (Stebbing 1942: 431-432) clashes with the fact that contemporary mathematics allows multiple definitions of the same mathematical entity.

Stebbing's book furthermore contains the objection to objectual definition which, as mentioned previously, Russell later also made in his (Russell 1946): "Do we define *expressions* or *what the expressions stand for*? Many logicians hold that it is the latter that is defined. This, however, is a mistake. Mill stated the correct view when he said 'All definitions are of names, and names only'." (Stebbing 1942: 426)

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[10] I am grateful to Frederique Janssen-Lauret for pointing me to Stebbing's book and this section in particular.

[11] See chapter I.01 for discussion.

Finally, Stebbing also drew on contemporary biology to argue against Aristotle's idea of an exclusive and exhaustive division of kinds of things into definable species, i.e. of the pervasiveness of essences in nature. She approvingly cites Goodrich, who writes about species that "it is usually scarcely possible to find any character at all sufficiently conspicuous and constant to distinguish them from each other."[12] Stebbing's clearly anti-essentialist conclusion is that "[m]odern theories of organic evolution have combined with modern theories of mathematics to destroy the basis of the Aristotelian conception of essence, and hence to throw doubt upon the traditional theory of definition." (Stebbing 1942: 433)

Still, it is worth noting that just like Moore, Wittgenstein, and Schlick, Stebbing saw the need to account for truths stating certain intrinsic relations which phenomenologists would have taken to express laws of essence. She in particular accepted Moore's explanation of the relation between "This is red" and "This is colored" in terms of his notion of entailment (see (Stebbing 1942: 223)).

3.5 Quine

Quine's essay "On What There is" (Quine 1948) played a crucial role in establishing metaphysics as a sub-discipline of analytic philosophy by giving it a logical underpinning. Quine showed that someone fully committed to the logical empiricists' logic-based methodology could still answer metaphysical questions without wandering off into the murky territory of the "intuitive metaphysics" (Carnap, 1928: §182) they dismissed.

While Quine paved the way for analytic metaphysics, his main contribution to the philosophy of essence was negative. He provided a number of highly influential arguments against what he called Aristotelian essentialism, "the doctrine that some of the attributes of a thing (quite independently of the language in which the thing is referred to, if at all) may be essential to the thing, and others accidental." (W. V. O. Quine 1953b: 173-174; see chapter IV.01 for a more detailed discussion of the arguments) The arguments focus on problems regarding the semantic interpretation of modal operators, especially as they occur in formulas like $\exists x \Box Fx$, in which a quantifier outside the scope of a modal operator binds a variable inside that operator's

[12] Cited in (Stebbing 1942), p. 439. Original source: (Goodrich 1924), pp. 150-151. For more on essence in biology, see chapter III.02.

scope. Such formulas express *de re* modal claims, modal claims about particular objects in the domain of quantification. Quine considered *de dicto* modal claims, claims in which a modal operator applies to a closed formula involving no free variables, less problematic (See e.g. (Quine 1948: 24)), but thought that by accepting de re modal claims, one was led directly into the "metaphysical jungle" (W. V. O. Quine 1953b: 174) of Aristotelian essentialism, a place friends of "desert landscapes" (Quine 1948: 23) like himself abhorred. Pace Aristotelian essentialism, Quine insisted that "necessity does not properly apply to the fulfillment of conditions by objects [...], apart from special ways of specifying them." (W. V. O. Quine 1953a: 151.)

It is clear that Quine identified essentiality and necessity[13] and that his arguments left an important mark on the discussion of essentialism (see e.g. (Cartwright 1968)). However, unlike contemporary participants in this discussion, who usually take this identification to be a thesis about metaphysical necessity, Quine clearly stated that his arguments target 'strict necessity', which following C. I. Lewis and Carnap in (Carnap 1947) was just another word for analyticity (W. V. O. Quine 1953a: 153). Quine briefly discussed generalizations of his arguments to physical modality and counterfactuals (W. V. O. Quine 1953a: 158), but he did not entertain the idea of a specifically metaphysical notion of necessity.[14]

4. The way towards the modal view of essence

4.1 Propositional modal logic: C. I. Lewis

Crucial advances in modal logic from the 1950s to 70s helped address Quine's arguments against Aristotelian essentialism and Carnap's claim that essence is a meaningless notion. C. I. Lewis's made an important early contribution to the development of contemporary modal logic by axiomatizing the logic of strict implication (see (Lewis 1918: ch. V) and later the standard systems of propositional modal logic S1-S5 (Lewis and Langford 1959: appendix II). Lewis did

[13] See the alternative statement of the doctrine of Aristotelian essentialism in (W. V. O. Quine 1953a: 155).

[14] He would much later write that '[m]etaphysical necessity has no place in my naturalistic view of things'. (Quine 1991: 270)

not provide a semantic interpretation for his logics,[15] but paved the way for work on the semantics of quantified modal logic which crucially shaped the later discussion of essence.

4.2 Quantified modal logic: Barcan Marcus

The development of C. I. Lewis's modal logic in Lewis and Langford's *Symbolic Logic* contains some discussions of quantifiers in modal logic (see e.g. (Lewis and Langford 1959: 270, 323; for propositional quantifiers: 179), but not a fully general quantified modal logic. Such a logic was introduced by Ruth Barcan Marcus in (Barcan 1946) and extended to a quantified modal logic with a notion of identity in (Barcan 1947). Unlike Carnap's take on quantified modal logic in (Carnap 1947), hers directly connected to the different standard systems of modal logic established by Lewis (see (Fitting 2020)) and did not assimilate necessity to analyticity. Barcan Marcus's approach in these early papers was purely proof-theoretical, i.e. purely syntactical, which meant that it sidestepped Quine's semantic arguments against quantified modal logic (see Janssen-Lauret 2022: section 2).

An important feature of Barcan Marcus' logic which would leave a lasting mark both on the development of quantified modal logic, as well as on its application in metaphysics are the Barcan and Reverse-Barcan formulas: $\forall x \Box Fx \rightarrow \Box \forall x Fx$ and $\Box \forall x Fx \rightarrow \forall x \Box Fx$.[16] A logic which verifies all instances of the two formulas allows one to transition between modal claims involving quantification into a modal context (de re modality) and within a modal context (de dicto modality), providing a way to respond to Quine's skepticism about de re modality.

Even more importantly in the current context, Barcan Marcus later defended "minimal essentialism" in her 1971 paper "Essential Attribution", a view characterized by the formula $\exists x \Box Fx \wedge \exists x \neg \Box Fx$ ("there is something which is necessarily *F*, but there is something which is not necessarily *F*"); (Barcan Marcus 1993: 62; for an in-depth discussion, also relating the view to Fine's arguments against the modal view of essence, see Leech forthcoming). Any quantified modal logic which has this thesis as a theorem allows non-trivial necessary predications, i.e. predications which necessarily characterize some things as opposed to others.

[15] See (Mares 2016) for discussion.

[16] These canonical formulations of the principles are not identical to, but implied by formulas involving a strict conditional instead of the necessity-operator in her paper. See (Barcan 1946), axiom schema 11 and theorem 37.

Barcan Marcus can be taken to show that this and two stronger versions of Aristotelian essentialism (or extensions of these views) are not, as Quine called them, "indefensible." (Quine 1960: 183.) Discussing a particular application of the view, she concluded that "[i]nstead of leading into a metaphysical jungle, formulation of our analysis [of Aristotelian essentialism] within a causal interpretation of QML [Quantified Modal Logic] is suggestive and illuminating." (Barcan Marcus 1993: 69-70.)

4.3 Quantified modal logic: Kripke

With axiomatic modal logic in both its propositional and quantified varieties put on a proof-theoretic basis, what was still missing was a workable semantics. Progress was made by several philosophers, including Carnap, Kanger, Montague, and Hintikka, but the development of the now standard relational, model-theoretic, or Kripke semantics for modal logic found its culmination in Kripke's logical papers.[17] This semantics was first introduced for the quantified version of the modal logic S5 with identity and proven complete in (Kripke 1959). Kripke's semantics was based on the same idea as the one developed in (Carnap 1947), namely that modal notions like necessity and possibility can be interpreted semantically in terms of truth in possible worlds. Two crucial features of the new semantics were that it treated possible worlds as simple points of evaluation instead of as Carnapian state-descriptions or as extensional models and that it interpreted modal operators semantically using a binary accessibility relations between possible worlds. This new approach allowed Kripke to establish the correspondence between the normal modal systems introduced by C. I. Lewis and certain formal properties of the accessibility relation in a semantic structure called a frame (See (S. A. Kripke 1963a)). This result was crucial for the further development of modal logic. Kripke's work also shone further light on the metaphysical significance of the Barcan formulas. These formulas are true in constant-domain Kripke models, models in which the quantifiers and variables are interpreted in the same domain of objects with respect to all possible worlds. (S. A. Kripke 1963b) introduced variable domain models and showed that the Barcan and reverse Barcan formulas are falsified in some of them. This shows that the inter-translatability between de re and de dicto modal claims ensured by the formulas is tied to a particular constraint on the semantic interpretation of the modal operators.

[17] See (Goldblatt 2005: sec. 4; Ballarin 2021: sec. 3.2).

4.4 Direct reference, rigid designation, metaphysical modality, and the modal view

The availability of modern modal logic at least partly addressed Carnap's charge of meaninglessness and Quine's semantic objections against quantification into modal contexts. It also helped bring a metaphysical view, which was arguably already tacitly present in some attacks as well as cautious defenses of essence, into the lime-light: the *modal view of essence,* according to which essentiality either coincides with, or can be analyzed in terms of necessity. Quantified modal logic hence also promised to provide a fruitful heuristic for metaphysical speculation about essence: Assuming that the essential properties of a thing are those properties which it has in all possible worlds, the claim that an object essentially has a property can be justified by arguing that the object has the property in all, or rejected by arguing that it lacks the property in some worlds. Modal logic alone licensed neither this sort of reasoning, nor substantial metaphysical claims,[18] but a number of interrelated developments in the philosophies of language, of science and in metaphysics helped legitimize both.

Leading proponents of essentialist ideas, including in particular Barcan-Marcus (Barcan Marcus 1961: 310), adopted the Millian (See (Mill 1974: book I, ch. II)) view that proper names are directly referential, i.e. refer directly to their bearers without the mediate step through a definite description. Kripke defended the closely connected view that proper names are rigid designators, i.e. that they refer to the same object with respect to all possible worlds. (See Kripke 1980: 48ff.) Putnam generalized these theses to natural kind and magnitude terms. (See (Putnam 1970; Putnam 1973).) These semantic views explicitly contradicted the then dominant descriptivist view, according to which the meaning of singular terms, including proper names, consists in definite descriptions of their referents (see e.g. (Russell 1905; Searle 1958)). They hence avoided difficult questions regarding the reference of proper names in different possible worlds, which, given descriptivism, would threaten to hinder reasoning about the contingent and necessary properties of objects. They also offered a bold counterpoint to Quine's claim that we cannot make sense of the idea that things necessarily (or essentially) have properties independently of how we refer to them. Even though these views did arguably not by

[18] The proof of the necessity of identity could be taken as an exception, but see (Burgess 2013) for discussion. See also (Williamson 2013).

themselves entail substantial essentialist claims (see (Salmon 2005)), they certainly made it easier to entertain and defend them. Putnam for example argued that the use of natural kind terms like “water” or “tiger”, indicate certain characteristic features of objects which he took to be likely explainable in terms of an underlying essential nature which those objects share with others of their kind (Putnam 1970: 188). Similarly, Kripke argued that theoretical identifications involving natural kind terms, such as that of gold being the element with atomic number 79, of heat being molecular motion, or of cats being animals, are necessary, if true (Kripke 1980: 138). More controversial are Kripke’s defense of the essentiality of origin (Kripke 1980: 113; see also chapter II.05) or his argument that there could not have been unicorns (Kripke 1980: 24, 156-157).

Another closely related development was a shift from a semantic to a more metaphysical perspective. Carnap and Quine pursued a purely semantic approach to modality and focused on analyzing the meaning of modal notions. Semantic considerations about the meaning of proper names still played a crucial role in Kripke’s *Naming and Necessity*, but Kripke did not shy away from metaphysical considerations which, so to say, put the objects first. He for example argued that when reasoning about what might or might not be the case concerning a particular object, we need not first worry about finding a criterion of trans-world identity, a description listing certain of its characteristic properties which we can then use to identify the object in different possible worlds. Instead “we begin with the objects, which we have, and can identify, in the actual world. We can then ask whether certain things might have been true of the objects.” (Kripke 1980: 53.)

A question which was lingering at least since Moore’s work on intrinsicality was the question of the kind of necessity involved in essentialist claims. Both Moore’s work, as well as Wittgenstein’s problematic attempt to account for necessary exclusion-relations between colors, suggest that essential truths are, pace Schlick or Ayer (Ayer 1952: 148f) neither analytic, nor conceptually necessary or tautologous, but could rather be taken to be necessary in a different, so far elusive, sense.

An answer which has now found wide-spread acceptance among analytic metaphysicians is that the necessity inherent to essential truth is metaphysical necessity. In her pioneering 1938 paper “Logical and Metaphysical Necessity” (Kneale 1938) Martha Kneale applied the notion of

metaphysical necessity to propositions "concerned with the most general characteristics of reality and the necessary relations between them." (Kneale 1938: 264.) Her main example were propositions about the relation between tenses, which are not analytic since their negations are not logical contradictions. The notion however only became a staple in analytic philosophy about 30 years later in a climate more friendly to both metaphysical and modal reasoning, after Kripke advocated for it in *Naming and Necessity*. An important step towards establishing this climate was Kripke's insistence on a distinction which was already stressed by Kneale, namely that between apriority and necessity.[19] Kripke argued that apriority should be considered an epistemological notion and that as such, it should be clearly distinguished from necessity, which he considered to be a metaphysical notion. This controverted the idea that necessity and apriority coincide, an idea which can even be tracked back to the B-introduction to Kant's *Critique of Pure Reason.* It also paved the way for the recognition that there are truths which are a priori, but contingent on the one, and a posteriori and necessary on the other hand. One of Kripke's by now well-worn examples of a truth of the latter kind is "Water is H_2O". He argued that this claim expresses a necessary truth about the substance water, but since this truth had to be discovered empirically, our knowledge of it is not a priori (Kripke 1980: 127). Like the move to a directly referential theory of natural kind terms, the dissociation of necessity from apriority effectively contributed to broadening the subject matters about which essentialist claims could be made. However, it also raised substantial epistemological questions about the possibility of knowledge of essences (see chapter II.08).

The advances in modal logic, the new approach to meaning, reference, and possible worlds, and the recognition of a sui generis notion of metaphysical necessity all helped establish the modal view as the de facto standard approach to essence. An explicit formulation of it is arguably provided by Forbes, who writes that 'if *P* is an essential property of *x*, then for all possible worlds *w*, if *x* exists in *w* then *x* has *P* in *w*.' ((Forbes 1985), p. 94; see also chapter II.01) This, or equivalent views of essentiality were widely assumed in discussions of essentialist views in the 1970s and 80s, including for example in Chisholm's defense of mereological essentialism (Chisholm 1973), or Plantinga's book *The Nature of Necessity* (Plantinga 1974).[20]

[19] For a discussion of Kneale's view of metaphysical necessity including a detailed comparison to Kripke's view, see (Leech 2019).

5 Fine

By the 1980s, the modal view of essence was well-established, but not wholly uncontroversial. Wiggins for example argued against framing essentialist claims in terms of a sentential necessity-operator (Wiggins 1976), Almog rejected the identification of essence with necessity and argued for a non-modal notion of essence tied to "what questions" (Almog 1991), and David Lewis saw no substantial role to play for essence in his metaphysics, but thought that if one so wishes, one could use his counterpart theory to make sense of a flexible, context-dependent notion of essence (Lewis 1986: 252). Despite such reservations, the modal view of essence arguably remained the standard view. This changed after Kit Fine's paper "Essence and Modality" (Fine 1994). In it, Fine raised four objections to the modal view, proposed a Neo-Aristotelian view which links essence to real definition, and argued that instead of explaining essence in modal terms, we can use essence to account for different kinds of necessity, including in particular metaphysical necessity.[21]

Both the objections, as well as Fine's positive proposal from 'Essence and Modality' have been immensely influential. While this paper continues to receive most attention, important aspects of Fine's theory of essence are presented in other papers, including in particular a discussion of a range of different notions of essence (Fine 1995b), an essentialist account of ontological dependence (Fine 1995a), and the logic of essence (Fine 1995c). In the latter paper, Fine develops a logic for a first-order language involving an essentialist sentence operator (the formal counterpart to Fine's primitive notion "true in virtue of the nature of") and in particular proves that what many take to be the standard logic of metaphysical necessity, the system S5 of first-order modal logic with constant domains, reduces to Fine's system E5+ in the sense that any theorem of the former is also a theorem of the latter system (Fine 1995c: p. 267, Theorem 4). In his later paper (Fine 2000), Fine presents a semantics for this logic, showing that semantically, as well as syntactically, the logic of essence can be seen as an extension of what is often thought to be the standard system of quantified modal logic (see chapter II.10).

[20] Whether authors like Forbes or Plantinga can indeed be said to advocate an analysis of the notion of essence might not be as clear-cut as it is usually assumed to be. See Chapter II.02, footnote 1.

[21] See chapter II.02 and (Michels 2019) for more detailed discussions of Fine's objections and his positive view.

The importance of Fine's work on essence can hardly be overstated. His papers have not only re-established the notion of essence as a theoretical primitive, they have also paved the way for what has been called "a hyperintensional revolution" (Nolan 2014: 149) in metaphysics, a movement to rely on notions which are more fine-grained than the modal notions which were abundantly used by analytic metaphysics in the last third of the 20th century.

6 The Post-Finean Landscape in metaphysics

Fine's work on essence was a watershed moment in the metaphysical discussion of essence, so it is useful to briefly survey recent developments in this area in relation to his work. Many metaphysicians like Lowe (Lowe 2008; Lowe 2016) are in agreement with Fine's approach to essence or rely on it in their works. Others like Correia and Zylstra have elaborated particular aspects of his approach, so as e.g. to include a generic notion of essence besides the objectual notion, to elaborate the reduction of different kinds of necessity to essence (Correia 2006; Correia 2012), or to expand on the idea that pluralities have essences (Zylstra 2019).

There are also a number of metaphysicians who agree with Fine in rejecting the modal view, but propose alternatives to his approach to essence. Fine himself has developed a new account of essence which relates it and grounding to necessary and sufficient conditions respectively (Fine 2015). In a similar spirit, (Correia and Skiles 2019) assimilate essence to generalized identity. Hylomorphic accounts of essence have been discussed and defended in (Oderberg 2011) and (Koslicki 2018). (Kment 2014) and (Hale 2013) both propose theories of modality in which a primitive notion of essential truth plays a crucial role.

Some critics of Fine focus on particular aspects of his view, including its compatibility with metaphysical contingentism (Teitel 2017; for discussion see Werner 2020), assumptions built into the logic of essence (Ditter 2020), or its potential to provide a reductive explanation of modality (Casullo 2020; Leech 2021; Mackie 2020; Noonan 2018; Romero 2019; for discussion see Wallner and Vaidya 2020). Others acknowledge Fine's counterexamples to the modal view, but argue that the view can be saved by relying on additional, non-modal[22] devices in addition to necessity, either in the form of further theoretical notions or special logical frameworks

[22] See (Torza 2015).

(Wildman 2013 – sparseness, Cowling 2013; Melo 2019 – naturalness, Rizzo 2022 – grounding, Denby 2014; Bovey 2021 – intrinsicality, Correia 2007 – Priorean strict implication, Zalta 2006 – theory of abstract objects).

Fine's influence notwithstanding, there are some authors who have developed essentialist theories which keep the core identification of essentiality and de re necessity of the modal view intact. Two examples are Paul's modal account of essence which draws on David Lewis's view of essence as variable and context-dependent (Paul 2004; Paul 2006), and Mackie's minimal essentialism (Mackie 2006).

Outside of the specialized discussion in metaphysics, essentialist views are more often than not understood in terms of either the modal view, or even weaker views which link essence to extensional definition. This is especially noticeable in areas of philosophy or specific discussions closely connected to the sciences or to other humanities. An example of a relatively popular theory which (in most of its variants) relies on a modal view of essence is dispositional essentialism in the metaphysics of science (see chapters II.06 and II.07). Views like essentialism about species in the philosophy of biology (see chapter III.02), psychological essentialism (see chapter II.09, and e.g. (Gelman 2003; Leslie 2013)), and a number of essentialist views in the philosophies of psychiatry (see chapter III.07), race (see chapter III.08), and sex and gender (see chapter III.09) are in contrast highly controversial, specifically because of pervasive skeptical views about the unique (extensional) definability of relevant natural kind or species terms in these discussions.

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