Book Reviews

Gangle, Rocco, *Diagrammatic Immanence: Category Theory and Philosophy*. Edinburgh: Edinburgh University Press, (2016) 2020, pp. vi + 256.

Category theory is a widely applied[1] diagram-oriented mathematical theory of algebra. Generally, mathematical science diagrams use arrows, labeled with symbols, to connect between other symbols. Each type of diagram has its own formation rules, its "syntax".[2] Some types have transformation rules, and sequences of transformed diagrams form a "cartoon strip" of two-dimensional calculation and reasoning. Euclidean Geometry and Category theory diagrams are like that. But, in category theory there is also a one-to-one correspondence between diagrams and systems of algebraic equations, so that its two-dimensional calculations correspond exactly to algebraic calculations with one-dimensional expressions. The combination of such diagrams and their equations is a most elegant notational tool for defining structures and proving theorems about them.

Philosophical immanence (and its counterpart, transcendence) has a deep history. Immanence generally means "intrinsic" or "self-contained". Cosmological immanence appears in atheism: there is nothing beyond humanity. Epistemological immanence is associated with idealism: there is nothing outside of mind. Ontological immanence shows up in pantheism: God is nowhere but in every thing. the author defines 'immanence' as "any metaphysical position or method rejecting the notion that the ultimate structure of reality may be investigated independently of its real content" (3). He introduces *diagrammatic immanence* as an umbrella term for three more flavors, *relational immanence*, *semiotic immanence*, and *expressive immanence* associated with, respectively, Baruch Spinoza, Charles Sanders Peirce, and Gilles Deleuze. In each case, he discerns opportunity to enlarge intellectually rigorous expressive powers of philosophers using category-theoretic diagrams.

The book proposes "formal tools" (12) for philosophers, or "the philosophically informed", irrespective of, say, Continental or Analytic or Pragmatism focus on meaning, truth, or applicability, respectively. The book shades towards post-modern criticism of Cartesian "representational thinking". The Introduction to the book is well worth reading for its integration of the concept of "immanence" among philosophers across the Age of Reason, Modern, and Post-Modern Philosophy.

Chapter 1 on Spinoza is primarily a take on the Euclid-like presentation in the *Ethics*. Although there are no diagrams in the *Ethics*, and there are many diagrams in Euclid's thirteen books, the author considers the *Ethics* to be *diagrammatic*, thus distinct from other "genres of philosophical saying" such as "dialogues, lectures, essays, articles" and "dissertations". The author includes his take on the takes of other philosophers, such as K. Hvidtfelt Nielsen and Aaron V. Garrett. Philosophical problems of "individuation", "unity", "practical relation", "language", "communication", and "linguistic meaning" are discussed, but not always defined, presumably because the philosophically-trained reader knows what those problems are. In particular, Spinoza's "Proposition XIV. Besides God no substance can be granted or conceived", is inconsistent with the observation that "a subject-predicate structure and model of language leads traditionally to an

[1] Fong, B. and Spivak, D.I. 2019, *An Invitation to Applied Category Theory: Seven Sketches in Compositionality*, Cambridge: Cambridge University Press.
[2] There are no syntactically correct category-theoretic diagrams in this book.

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understanding of individual things as distinct substances" (37). This inconsistency defines "the problem of unity". The problem is solved by the Spinozan "third kind of knowledge", which is "the very act of becoming a (relative) individual in and through certain kinds of relations". Relational Ontology is the contention that relations between things are more fundamental than things (the reverse contention is called "substantivist ontology").[3] The overall argument of the book is summarized in three Theses: (I) immanent metaphysics, such as that of Spinoza, implies relational ontology; (II) diagrams are a natural method "for investigating immanence immanently"; and (III) mathematical category theory is well-suited for "modelling and investigating diagrams". Chapter 1 concludes Thesis (I).

Chapter 2 is an introduction to mathematical categories and functors. "[T]he discovery of ideas as general as these is chiefly the willingness to make a brash or speculative abstraction, in this case supported by the pleasure of purloining words from the philosophers: 'category' from Aristotle and Kant, and 'functor' from Carnap".[4] Central principles of category theory, such as *duality*, *naturality*, and *universality* have philosophical resonance, are precisely defined in category theory, and hardly mentioned in the book. Samuel Eilenberg (co-creator with Saunders Mac Lane of category theory) taught that a mathematical *structure* is determined by "data" satisfying "conditions". Data and conditions are often notated by network-like diagrams composed of symbols connected by labeled arrows, and a special symbol possibly appearing in a region of the diagram enclosed by coterminous arrow paths. The symbols and arrows are the data of a structure, and occurrences of the special symbol in such a region denote equality of such paths. The "magic" of category theory is that the symbols in such a structure diagram usually stand themselves for structures, and an arrow between two structures is a directed relationship that "preserves structure". The category-theoretic word for structure-preserving directed relationship is *morphism*. "Category theory asks for every type of Mathematical object: "What are the morphisms?"[5] But the word 'morphism' *never* appears in this book. The reviewer speculates that the author needs to maintain consistency with philosophical more than with mathematical terminology, so for him the word 'relation' means "morphism". However, in keeping with relational immanence, relations are without *relata*, there are no objects. Fortunately, there is an alternative definition of a category called the "arrows-only" definition which uses "identity arrows" for objects.[6]

Chapter 3 is "conceptual preparation" for the author's innovative category-theoretic idea of *diagrammatic sign* (author) in Chapter 4. The scientific study *semiology* of linguistic *signs* is a "two-sided psychological entity" represented by a drawing with "sound-image" below and "concept" above, and at the left an upward arrow, at the right a downward arrow.[7] The author re-draws this diagram, as a *dyadic relation*, with an arrow from "sign" to "referent" (Fig. 3.1). De Saussure's first principle of semiology is that the choice of sign, also known as

[3] Wildman, W.J. 2010, "An Introduction to Relational Ontology", in Polkinghorne, J. (ed.), *The Trinity and an Entangled World: Relationality in Physical Science and Theology*, Grand Rapids: Eerdmans.
[4] MacLane, S. 1971, *Categories for the Working Mathematician*, New York: Springer, 29.
[5] Ibid.: 30.
[6] Ibid.: 9. Even better is a first-order theory of relations, in which there are no relata, no things, no objects, just relations and their algebraic relationships. See Doumane, A. 2021, "Graph Characterization of the Universal Theory of Relations", *HAL Archives Ouvertes.*
[7] de Saussure, F. 1966, "Course in General Linguistics", New York: McGraw-Hill, 66.

"signifier", is arbitrary relative to the concept, the "signified". The problem is that dyadic signs "tend to reinforce a subject-as-sovereign model of mentality" (111), in other words the interpretation of the sign's meaning is not intrinsic in the dyad, it is not immanent. The remedy is *semiotics'* concept *triad* (Peirce): "A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates *in the mind* [reviewer's italics] of that person an equivalent sign, perhaps a more developed sign". That sign induced in a mind is called the *interpretant* (Peirce), so that the interpretant becomes "in turn a sign, and so on *ad infinitum*".[8] The author exhibits in Fig. 3.2 a triangular diagram of dots and arrows with dots labelled "interpretant", "sign", and "object". If this is supposed to be a category-theoretic diagram, then dots represent objects and arrows represent morphisms, and so presumably the ambient category of this diagram possibly has both mental and non-mental objects.[9] This is consistent with Spinozan relational immanence, and in this book it is "the very essence of Peirce's semiotic immanence" (118), which is called *thirdness* (Peirce).

The section on "Diagrammatic Signs" in Chapter 3 requires a concrete understanding of *diagram*. Categories have protean mystique. First kind: a category may contain all mathematical structures of a certain type, together with their (structure-preserving) morphisms (e.g., the category of sets and functions, the category of groups and group homomorphisms, or the category of categories and functors). Second kind: a category may be recognized as an example of a particular mathematical structure known and named prior to the advent of category theory (monoid, group, partially ordered set). Third kind: a category may be a *template* (or "blueprint", or "plan") for all the structures of a particular type, as in the first kind. This third kind requires a "semantic domain" in which the template category is "realized".[10] The author's "rough sketch" of *diagrammatic sign* (Peirce) analyzes it into *selection*, *experimentation*, and *evaluation*. These combine to form a triangular template category, whose realizations are in a semantic domain, such as the real-world "spatial and temporal relations of some physical space" (122). Fig 3.4 illustrates the template, and it is "Peirce's triadic sign-schema made internally relational", in other words, *semiotic immanence* (author). There is more to Chapter 3, including a take on *dyadic substrates* (Husserl), and a take on John Deely's take on the *way of signs* (Locke).

Chapter 4 introduces "presheaves" based on a category, and their morphisms. Presheaves and the lemma[11] of Nobuo Yoneda are adapted by the author to semiotic immanence by interpreting a *diagrammatic sign* (Peirce) as a triangle of objects *Interpretant* (Peirce), *Ambient* (author), and the category *Sets* of sets and functions. The morphisms are a functor *selection* (author) from Interpretant to Ambient, and a presheaf *experimentation* (Peirce, author) on Ambient with values in

[8] Gross, N. 2008, *Richard Rorty: The Making of an American Philosopher*, Chicago: The University of Chicago Press, 121.
[9] Perhaps this is a philosophical category error.
[10] In greater detail, the "template" is called a *theory* of the kind of structure, the *semantic domain* is some category of the first kind, say, the category of sets and functions, or a topos, and one possible *realization* or *model* or *formal semantics* for the theory is a functor from the theory to the semantic domain (See Lawvere, F.W. 1963, "*Functorial Semantics of Algebraic Theories*", *Proceedings of the National Academy of Sciences*, 50, 5, 869-72; Barr, M. and Wells, C. 1985, *Toposes, Triples and Theories*, New York: Springer).
[11] "Arguably the most important result in category theory" [Wikipedia].

the category of sets and functions. Peirce invented a comprehensive diagrammatic logical calculus *Existential Graphs* (Peirce). The author claims that the entire apparatus of Existential Graphs may be re-interpreted in terms of presheaves and their morphisms.[12] [13] Chapter 4 goes to Thesis (II).

Chapter 5 opens with an analogy between a mathematical research program of Felix Klein ("Erlangen Program") and "Deleuzian thought". That research program unifies different kinds of geometry under the common rubric of the pair consisting of a specified group of transformations of an ambient space, and the sub-group of those transformations that leave invariant specified properties of specified figures (a.k.a. shapes) in space. This is a way to abstract away from inessential characteristics of shapes and space.[14] The author says Deleuze urges philosophers to abstract away from "common-sense objectivity" and "clichéd modes of representation" of Cartesian thought (163). He also refers to a take of Levi R. Bryant on *ideas* (Deleuze) as "sets of variations".[15] The author says, "Deleuze's thought is best understood as formally topological in essence". The reviewer believes the author intends to use *topological* (mathematics) as vehicle in a metaphor whose tenor is Gilles Deleuze's intuitions of *continuity* (philosophy). Likewise, some other mathematical terms, such as "limit of a series", "singularity", and "infinitesimal", are deployed metaphorically in the section "Thinking from Blindness". The author tantalizingly avers that Deleuze is a philosopher of "the unthought", of the "dark precursor" and the violence that "forces us to think" (168). The section "Spinoza's Triadic Difference" associates *triad* (Peirce) with Spinozan immanent ontology of *substance*, *attribute*, and *mode* (Spinoza), and *difference* (Deleuze): "the conceptual relations among substance, attributes, and modes together constitute the framework that Deleuze calls expressive" (174). In the next section, "Language, Sense and Singularity", the author explains that *singularities* (Deleuze) are the "recurrent topological features" among the multiple possible states of a system. Singularities are the "constituent factors" in *sense* (Deleuze) which is "the membrane through which the ideal and the material are exchanged—in nature, in the meanings of human practice, in philosophy" (181). The section blurs the distinction between "structure" and "diagrammatic representation of structure". In the Chapter 5 section, "An Ethics of Signs," a "vision" of how to live is to "experience oneself as a sign, to know the events that happen to one as expressive of a sense that passes beyond the individuality and personality of one's own self, to live as a sign bridging incompossible worlds" (193). Chapter 5 concludes with "How Philosophy Learns to Become," about Deleuze's critique of Cartesianism, rising to Spinozan *diagrammatic immanence* over *representational transcendence* (author). One of the few respites from mathematico-philosophic "diagrammatic immanence" is the author's take on Gilles Deleuze's take

[12] Rocco, G., Gianluca, C., and Tohme, F. 2020, "A Generic Figures Reconstruction of Peirce's Existential Graphs (Alpha)", *Erkenntnis*, 18, 2020.

[13] Existential graphs are the foundation for the computational *conceptual graphs* of Sowa, J.F., 1984, *Conceptual Structures: Information Processing in Mind and Machine*, Reading: Addison-Wesley.

[14] It is such a general idea that one might wonder whether algebra is the geometry of notation.

[15] This is metaphorically evocative of the end-point preserving homotopy which is crucial to the proof of the equivalence of Hamilton's Variational Principle and the Euler-Lagrange Equations.

on Michele Tournier's take on Daniel Defoe's novel, *Robinson Crusoe*, as "allegorical figure of European modernity" (195).[16]

Finally, Chapter 6 discusses the possible philosophical pertinence of the major category theoretic concepts such as *adjoint functor* and *topos*. The proposal is that adjoint functors may formalize relationships such as *substance-attribute*, *virtual-actual*, and the "purely immanent" *conceptual-real* (213) and *ideality-materiality* (223).[17] The topos-theoretic concept *subobject-classifier* is explained in support of a primary objective of the book, which is to shift from "an object-oriented to a relational ontology" (Thesis (I)). The standard theorem in *topos theory* that any morphism is equal to the *composition* of an *epimorphism* followed by a *monomorphism* suggests to the author that a theory of *triads* (Peirce) discussed in Chapter 4 might be formalized in a *topos*, as in the *presheaf factorization* of *triadic semiotics* (Peirce) in Chapter 4. The author associates Boolean algebras with "concepts" (as in propositional logic) and Heyting algebras with "spaces" (as in topology), and together these "underwrite the possibility of diagrammatic immanence" (233).

This book is for philosophy non-beginners familiar at least with Baruch Spinoza, Charles Sanders Peirce, and Gilles Deleuze. In his Conclusion, the author acknowledges that at least part of what philosophy is for is to respect and conserve "the singular grain of real human experience", and that "it should not submit to the rigour of mathematics and logic without considering the possibility of philosophical *rigor mortis*" (244). Perhaps, in mathematics, rigor cleans the window through which intuition shines, and maybe in philosophy modern diagrams and mathematical structures could be useful notations and concepts for expressing its intuitions. But, unlike words of natural language, they have not been in use long enough to accumulate the metaphorical depths for expressing intuitive insights into the ultimate questions only philosophy has long cared and dared to ask. It would be unfair to say that the book skirts application of "abstract nonsense"[18] in the service of "fashionable nonsense".[19] Nevertheless, it would be a disservice to the reader if not forewarned that the book would not be helpful to the philosopher seeking to use category theory as a source of vehicles for philosophical metaphors. One must learn category theory first.

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[16] There are multiple takes and re-takes in this book, and indeed, as there are throughout philosophy. Therefore, it behooves the reviewer to provide a brief take on "take". Every organism has a *boundary*. A *take* is an *expression* in the *microlect* of an *internal resonance induced* by an *environment*. The environment may be *external*, and *natural* or *textual* or *behavioral*. Or, it may be *internal*, and induced by some other internal resonance. See Cooper, E.D. 2015, *Microlects of Mental Models*, Rockport: Cognocity Press.

[17] There is but a brief allusion to the ground-breaking invention of *categorical logic* (Lawvere). Download Marquis, J.-P. and Reyes, G.E., *The History of Categorical Logic* from https://www.webdepot.umontreal.ca/Usagers/marquisj/MonDepotPublic/HistofCatLog.pdf.

[18] In category theory and homological algebra, "Labeling an argument "abstract nonsense" is usually not intended to be derogatory, and is instead used jokingly, in a self-deprecating way, affectionately, or even as a compliment to the generality of the argument" (Wikipedia).

[19] Sokal A., Bricmont J. 1998, Fashionable Nonsense, Postmodern Intellectuals' Abuse of Science, New York: Picador.

Tomasello, Michael, *A Natural History of Human Morality*.
Cambridge, MA: Harvard University Press, 2016, pp. 207.

In a Darwinian perspective, humans are expected to competitively care about their egocentric survival needs. Therefore, a foundational problem in the descriptive study of human morality consists in explaining how they come to develop a *genuine* (i.e., non-purely instrumental) interest in the well-being of others. In a nutshell, this is the challenge that Michael Tomasello, a central figure in developmental, evolutionary, and comparative psychology and anthropology, takes up in his *A Natural History of Human Morality*. Although relatively self-contained, it must be thought of as the counterpart, in the ethical domain, of his earlier *A Natural History of Human Thinking*.[1]

The two complement each other insofar as they both develop a powerful two-step account (from *second-personal collaboration* to *group-minded culture*) of human social evolution—respectively, of new forms of thinking and of a unique morality—as shaped by mutualistic interactions. The underlying thesis that runs through the more recent *A Natural History of Human Morality* is that human morality, as grounded in *shared intentionality*, has no equivalent in other species: it cannot be accounted for in terms of the more primitive forms of cooperation existing among great apes (chimpanzees and bonobos). According to Tomasello, group-bonding sympathy and reciprocity among apes are inadequate to explain distinctively human motives such as the sense of mutual commitment, respect, obligation, or guilt. In this respect, Tomasello singles out two fundamental types of morality, the *morality of sympathy* and the *morality of fairness*. The former is driven by self-sacrificing altruistic motives, such as compassion and benevolence, and is best exemplified by parental care. The latter, unique to humans, is typical of complex and stratified interactions, where individuals must balance their competitive and cooperative efforts, i.e., by punishing the defectors or giving everyone what *ought* to be given.

Assuming that the task is that of explaining morality as a set of empirical phenomena, Tomasello's account is not cloaked in a debunking attitude about morality in general. The purpose, for instance, is not to undermine moral objectivism or cognitivism by discussing whether moral truths exist or are knowable, or to unveil the selfish motivations underlying apparently moral behaviours. And Tomasello is neither in the business of defining what normative theories are correct. By contrast, the goal is to uncover the psychological and social mechanisms that have brought people to become responsive of preoccupations that we would deem as moral. A recurring theme is thus that the transitions between the early developmental stages of morality are not motivated by intrinsically moral factors: reflective judgments about what is morally right or wrong do not play any specific role at this level. Such transitions rather depend on adaptations to a changing environment, which made social cooperation more and more vital. Said that, the book repeatedly engages with philosophical moral theories (discussing Hume, Rousseau, Kant, Rawls, Darwall or Nagel), especially for what concerns the roots of the notions of empathy, fairness, and impartiality.

In what follows, I will provide a sketch of the structure and content of the book while directly emphasising some discussion points. Before we start, however, a

[1] Tomasello, M. 2014, *A Natural History of Human Thinking*, Cambridge, MA: Harvard University Press.

couple of observations are in order. Methodologically speaking, Tomasello proceeds by formulating speculative hypotheses and balancing them with a substantive body of empirical material, very often referring to his impressive first-hand work on children and apes. The assumption is that the behavioural patterns observable in children, as systematically contrasted with those of apes, offer key insights on our ancestors' species-specific features: one- to three-year-old toddlers are expected not to understand social norms and are thus similar our early ancestors (being already different from apes), while older children start sharing a sense of cultural identity. Tomasello frequently pauses to provide summaries of the main arguments or return on important points: this style is clearly helpful to stress some key aspects, but sometimes makes it unclear whether Tomasello is advancing the story or rather flashing out a previous argument. This notwithstanding, the book is engaging, utterly convincing and a pleasure to read.

Concerning the relevant time window, the story develops across several phases, beginning about 6 million years ago, with the last common ancestor between humans and great apes (Ch. 2). Newly emerging ecological circumstances, forcing humans to develop novel forms of cooperation, are responsible for the subsequent, more central, phases of moral evolution. Progressing significantly between 2 million and 400.000 years ago, with the appearance of the species *homo* (Ch. 3), it undergoes a new transition around 150.000 years ago, with the formation of distinct cultural groups (Ch. 4). Here, Tomasello distinguishes between two sub-phases: the period that goes from 150.000 to 12.000-10.000 years ago (*modern humans*) and the period that then begins, with the agricultural revolution (*contemporary humans*).

I shall now proceed by discussing the articulation of the book, although I will have to gloss over the experimental details and theoretical detours that contribute to making the text so intriguing. So, the book is divided into five chapters. Ch. 1 provides an overview of the overarching themes that are then developed in detail in the subsequent chapters. In Ch. 5, Tomasello places his views within the landscape of contemporary theories of moral evolution, notably evolutionary ethics, moral psychology, and gene-culture coevolution. The main differences between Tomasello's and these other research traditions is that evolutionary ethics emphasises reciprocity rather than interdependence; moral psychology emphasises psychological rather than evolutionary processes; gene-culture coevolution emphasises cultural, rather than biological, evolution. I will then focus on Chs. 2-4, where the main theses are presented.

In Ch. 2, Tomasello illustrates animal sociality in terms of the two opposing drives of cooperation and competition. While the latter is immediately understandable within a Darwinian framework, the former makes sense insofar as it becomes a viable evolutionary strategy for a gene, an individual or a social group. From the point of view of the organism, a most central mechanism that explains cooperation is the symmetrical recognition of our mutual *interdependence*, i.e., by the recognition that my own well-being (e.g., for mating or hunting) depends on the well-being of my conspecifics. In this, Tomasello departs from classic models of cooperation and altruism as based on (less stable) patterns of reciprocation. In this framework, individuals are incentivised to cooperate (e.g., by rudimental forms of punishment), while the skills that ease the cooperation (e.g., self-regulation) are selectively favoured.

The tangled relationship between competition (dominant and more constant) and collaboration in great apes offers a glimpse into the life of our common

ancestors. When there is no food competition, apes seemingly exhibit both forms of strategic cooperation and sympathy in association with helping behaviours. In this, Tomasello distances himself from his fellow scientist Keith Jensen, holding that non-human primates do not have authentically altruistic or pro-social tendencies.[2] However, Tomasello argues, great apes are not moral agents either: they lack a proper sense of fairness for what concerns both retributive and distributive justice (as tested with economic games and social comparison tests). In this, he distances himself from Brosnan and De Waal's claim that great apes care about reciprocity in a way that is conducive to fairness concerns.[3] In Tomasello's view, sympathy does not suffice to produce a sense of fairness, with strong interdependence being the missing ingredient.

Ch. 3 relies on the observation of three-year-old babies engaging in dyadic interactions. This allows exploring how a basic mutualistic collaboration develops into a second-personal morality through which humans think of themselves as a *We*, i.e., a joint agent able to coordinate in view of shared goals and cooperative identities. This process is fuelled by the recognition of the self-other equivalence, grounding a widespread sense of mutual respect, commitment, responsibility, and obligation among partners. Within this relationship, the partners come to genuinely (i.e., not just strategically) *trust* each other, which provides a more solid basis for future collaborations.

Clearly, this is a key move in that Tomasello's conceptual framework depends on such notions of interdependence and joint intentionality, which have been the target of sustained philosophical and empirical attention in recent years. Here, the specific enabling factor was a temporally extended process of self-domestication (via pair bonding, collaborative hunting, and collaborative childcare), which was in turn triggered by large-scale climate changes in Africa. This made (good) collaboration obligatory rather than just advisable. Heightened interdependence makes it rational to care about the well-being of present and potential partners, even when this might be detrimental to egoistic subgoals. At the level of mechanisms, this process coincides with an expansion of the morality of sympathy (towards nonkin and nonfriends) but, more importantly, with the development of the morality of fairness, which is needed to manage such more complex and stable interactions.

The chapter details the new psychological processes—joint intentionality, second-personal agency, and self-regulatory joint commitment—that promote the development of the morality of fairness. Something that deserves attention are the so-called *role-specific ideals*: within a collaborative dyad, everyone understands what a virtuous and competent performance would imply, and that playing the role badly may lead to joint failure and personal disgrace. This contributes to fixing social standards that become publicly available. And, crucially, these roles are partner-independent to the extent everyone, having the right skills, can equally contribute to the joint endeavour: rather than being an intrinsically moral motivation, this self-other equivalence imposes itself with factual evidence and makes it rational to promote an impartial and respectful treatment of the co-specifics

[2] Jensen, K. 2016, "The Prosocial Primate: A Critical Review", in Naguib, M., Brockmann, J., and Mitani, J.C. (eds.), *Advances in the Study of Behavior*, Cambridge, MA: Academic Press, 387-441.

[3] Brosnan, S.F. and de Waal, F.B. 2014, "Evolution of Responses to (Un)fairness", *Science*, 346, 6207, 1251776.

(although a critical appreciation of the notion of equal rights would emerge much later in history). The related sense of deservingness depends on people's aiming to be treated with equal respect when the spoils are shared, and especially when the partners have explicitly committed to some joint agreement (a sort of social contract). Tomasello here follows Darwall in suggesting that this joint commitment or agreement gives each co-player the representative authority to sanction the defector.[4] As potentially derived from an internalisation of such social sanctions, second-personal responsibility and guilt are genuine moral attitudes based on the mutual commitment to impartial standards.

Let's now move to Ch. 4. When groups started growing, ultimately leading to a widespread tribal organisation, new social needs emerge—the most urgent ones being that of recognising and be recognised by the ingroups and that of protecting the ingroups. On the one hand, shared cultural practices and conformity (social imitation) represent powerful tools to strengthen ingroup similarity and mark the difference with the outgroups, promoting loyalty and sympathy among the ingroups. On the other hand, what happens is the scaling up of the morality of fairness: from dyads to the *objective* morality of culturally differentiated groups competing for resources. Before providing some details, it is worth noticing that *objective* here does not have any metaethical valence: norms are objective insofar as they are seen as such by the group members. Although Tomasello does not aim to engage in metaethical discussions, some related issues may nonetheless arise. Explaining how humans profitably come to believe that their moral judgments are objective should be seen as independent of the question as to whether such morals *are* objective—but it may contribute nourishing some sceptical worries about whether the perceived objectivity reflects that the corresponding practices actually *are* morally good or bad or is just a by-product of our psychological profile.[5]

The passage to objective morality is again made possible by a set of three psychological processes, i.e., processes of collective intentionality forming ideals of objective right and wrong; processes of cultural agency based on norms and conventions; self-regulatory processes based on the sense of collective commitment and obligation to the moral community. The chapter thus explores how individuals become group-minded, sharing a common cultural ground with norms and conventions that facilitate coordination and provide the basis for an objective point of view (here Tomasello refers to the philosophical tradition of the *impartial spectator*) on how things should be done. Third-party punishment enforces the social norms that are seen as impartial and objective, and second-personal responsibility translates into an internalised sense of obligation and commitment. Individuals judge themselves and others based on a prescriptive moral identity, with some space for going beyond the social norms when needed (e.g., when confronted with moral dilemmas).

Within this context, the cultural norms that come to be perceived as authentically moral (rather than just conventional) are those that maintain a link with the second-personal morality (the *natural*, as opposed to the *cultural*, morality), e.g., acts that violate basic relationship of equality, respect and mutual recognition

[4] Darwall, S. 2013, *Morality, Authority, and Law: Essays in Second-Personal Ethics*, Oxford: Oxford University Press.
[5] See Joyce, R., 2019, "Michael Tomasello, *A Natural History of Human Morality*", *Utilitas*, 31, 2, 207-11.

are judged as utterly immoral. In this respect, some critics have pointed out that morality as we know it could have hardly emerged, in its entirety, from the notion of fairness (plus sympathy). Imperatives such as the moral condemnation of incest might be more exhaustively explained through different evolutionary roots.[6] However, a possible reply is that moral judgments that are apparently irreducible to the morality of fairness (plus sympathy) could be possibly explained through the interplay of these elements with non-intrinsically moral cultural or biological factors. The related prohibitions, including the prohibition of incest, may acquire normative (moral) force when their violation is perceived as a violation to standardised ways of doing things, threatening the stability of the cooperation.

The last section of Ch. 4 is devoted to the new cooperative processes that began with the rise of agriculture (12.000-10.000 years ago). A sedentary condition dominated by individuals with a surplus of food brought about a more institutionalized lifestyle, more apt to solve disagreements and promote negotiation by means of formal regulations—ultimately legitimised by their linkage with the moral point of view. The notion of *cultural group selection*[7] here plays a major role in explaining how large-scale societies might have progressively emerged. Throughout history and with the enlargement of the moral community, those norms (e.g., slavery) that patently violated the basic principles of equality and fairness were progressively overcome. In some fascinating pages, Tomasello hypothesises how the abstractness and authority of norms may have led to organized religions. These, in turn, play a role in strengthening the cooperation as directed towards a grander, supernatural, end. As in the previous stages, a pivotal role is played by forms of collective intentionality, here expressed by the tribe's being structured as a group agent. Therefore, to take on board Tomasello's views, one must be already quite comfortable with the notion of *shared agency*. As some have pointed out, the risk might be that of reifying social tribes as stable and monolithic units, a strong conclusion of which many social anthropologists and evolutionary theorists have been more and more sceptic.[8]

That said, and to conclude, Tomasello's work is an ambitious and fascinating journey in the history of morality, highly recommended to anyone interested in these fundamental cogs of human cognition.

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Tripodi, Paolo, *Analytic Philosophy and the Later Wittgensteinian Tradition*. London: Palgrave Macmillan, 2020, pp. v-267.

"How Did We Get Here from There?", the title of a fine paper by Timothy Williamson,[1] is a question that testifies to how the understanding of analytic philosophy is changing thanks to the study of its history. Indeed, recent contributions

[6] Ibid.
[7] See, e.g., Henrich, J. and Boyd, R., 2016, "How Evolved Psychological Mechanisms Empower Cultural Group Selection", *Behavioral and Brain Sciences*, 39, e40.
[8] See Birch, J., 2017, "Michael Tomasello: A Natural History of Human Morality", *BJPS Review of Books*.
[1] Williamson, T. 2014, "How Did We Get Here from There: Transformation of Analytic Philosophy", *Belgrade Philosophical Annual*, XXVII, 7-37.

to metaphilosophy and the history of analytic philosophy have become crucial for understanding the current development of philosophical work. Intriguing issues emerging from these reconstructions concern how current analytic philosophy shows striking incompatibilities with the work of its founding fathers such as Frege, Russell, Wittgenstein, Moore, and Carnap. Analytic metaphysics, naturalism, and a tight connection with cognitive science, to name a few of the dominant trends, mark a sharp contrast with the work of the first generations of analytic philosophers. Hence, it was inevitable that the history of analytic philosophy as an autonomous discipline would have signalled and highlighted such discrepancies. Revolving as they are around the identity of analytic philosophy, these issues are becoming controversial.

Tripodi's book focuses on an issue that would make today's analytic philosophy almost unrecognizable to a hypothetical British analytic philosopher who lived in the 1950s and the 1960s and who happened to have hibernated until now: Wittgenstein's disappearance from mainstream analytic philosophy.[2] It is not uncommon, inside or outside the boundaries of analytic philosophy, to hear peremptory judgments like, 'Wittgenstein just wasn't an analytic philosopher, period'. Despite our ability to provide grounds for such a claim, a statement like that before the 1960s would have been dismissed as sheer incompetence. Hence, one can legitimately ask how this shift in judgment happened. Tripodi attempts a detailed reconstruction of precisely that shift, making this book noteworthy. Let us first examine the book's structure so that its qualities may emerge in context.

Chapter 1 goes back to the Oxford and Cambridge of the 1950s and 1960s, when Wittgenstein was a gravitational force for analytic philosophy. Wittgenstein's philosophy was the "dominant way of thinking in Cambridge in the 1950s and 1960s", and "everybody in the new generation of Cambridge philosophers was deeply impressed by Wittgenstein's later way of philosophising, and set up their own work based on that model" (5). In those years, the combination of Gilbert Ryle's editorship of *Mind* and the early availability of Wittgenstein's late work contributed to establishing the intellectual trend culminated in the "Oxford linguistic philosophy" (8), that, even though it was not a homogeneous movement, brought about a recognisable style. This idea of philosophy was mainly devoted to two aims: "[to] dissolve philosophical problems by reaching conceptual clarity" and "describing the conceptual connections (and exclusions) in the web of one or more words" (9). Hence, philosophy was meant to be a conceptual endeavour, and this marks a relevant difference with current ideas: "the linguistic turn—to which the later Wittgensteinian tradition certainly belongs—has already gone by" (11). Conceptual analysis is no longer the obvious philosopher's tool, philosophical issues are now taken at face value, and metaphysical questions are understood as genuine. However, to talk about a 'general' Wittgensteinian decline would not be accurate, as Wittgenstein is still a widely read and discussed classic; the decline is visible only inside the restricted area of analytic philosophy (14). In fact, it can be measured only in the most important analytic journals, such as *The*

[2] The fiction about cryogeny can be found in chapter 1 (1-2). An analogue exercise has been invented by Huw Price to emphasise the contrast between Carnap's anti-metaphysical stance and the current abundance of metaphysics. See Price, H. 2009, "Metaphysics after Carnap: The Ghost Who Walks?", in Chalmers, D., Wasserman, R., and Manley, D. (eds.), *Metametaphysics: New Essays on the Foundations of Ontology*, Oxford: Oxford University Press, 320-46.

Philosophical Review, *The Journal of Philosophy*, and so on: here, Wittgenstein is ranked in the 63rd position with only 199 citations over 30 years (15). This explains why and how his later views have been "ignored and neglected" (15). This decline is a fact, certified by "historical-philosophical evaluation, academic history, editorial and publishing data, personal memories, citation analysis" (19).

Chapter 2 tells how British academia lost its centrality to US universities, and how this helped the decline of the Wittgensteinian tradition. Then there is the so-called 'Gellner affair'; in the middle of the intellectual war between the rising London School of Economics and Oxbridge in the 1950s, it happened that LSE's champion, Karl Popper, inaugurated a season of hostility versus Wittgensteinian philosophy, especially its tendency to treat problems as linguistic (25). In this context, Ernest Gellner published *Words and Things*,[3] a violent attack on the ways Wittgensteinians practiced and conceived of philosophy; the book, many controversial aspects notwithstanding, was influential over the following decades, contributing to discrediting Wittgensteinians as irrationalist, relativist, initiatory, and unscientific (32). Finally, the book charged Wittgenstein's followers with being inherently conservative in their defence of the practical irrelevance of philosophy (34-36). Hence, "[a]round twenty years after […] *Words and Things*, most Anglo-American analytic philosophers considered Oxford linguistic philosophy a dead intellectual option" (36): hostile to science, obscurantist, negationist about progress in philosophy, irrationally devoted to ordinary language, relativist about forms of life, quietist in its metaphilosophy (36-37). However, as Tripodi emphasises, this decline cannot be wholly credited to Gellner's influence, which remained controversial as rude and abusive. Crucial also was the rise of US academic hegemony, and Gellner's attack was not effective since it came from 'the periphery': "Britain used to be the "core" of the leading global empire, but it had irremediably become more peripheral, with respect to the United States" (41-42). This fact had a substantial impact on analytic philosophy, and Tripodi provides a detailed account of the transformations it produced. Nonetheless, and quite independently of his influence, Gellner's conclusions against Wittgensteinian philosophy were later reached by US analytic philosophers (39).

Chapter 3 is the story of how in the United States from the 1930s to the 1950s it happened that Wittgenstein's views were conflated with Rudolf Carnap's. This depended firstly on the fact that Wittgenstein's work remained almost unknown in US circles until the 1930s (51-52). When Wittgenstein's reception increased, it was in the context of the season of Logical Positivism and Wittgenstein was often enlisted along with it (52); the positivist emigration to the United States contributed to this partial misunderstanding. In the 1940s Wittgenstein's philosophy "gave way to lack of interest" (54), since "during the 1930s and 1940s, even in Europe it was not easy to understand what Wittgenstein was trying to do in his later work" (54). This resulted in a conflation that was fostered by attitudes including scepticism toward the identification of meaning and reference, a rule-based approach to meaning, negativity toward Platonism in the philosophies of logic and mathematics, similar views on the a priori character of 'grammatical'/'syntactic' statements, and a dismissal of metaphysics as nonsensical (55-57). However, there were also differences between the two philosophers, for example about science, since Wittgenstein had reservations about 'the scientific image of

[3] Gellner, E. 1959, *Words and Things: A Critical Account of Linguistic Philosophy and a Study in Ideology*, London: Routledge & Kegan Paul.

man in the world' (58-60). Also, religious belief was a matter of disagreement (60-61). Wittgenstein was, furthermore, critical of empiricism, while Carnap never appreciated Wittgenstein's 'showing'/'saying' distinction (62). Furthermore, while Wittgenstein defended the primacy of ordinary language, Carnap considered it full of amendable imperfections (63). However, deeper disagreements lay in their views on philosophical theorising: Wittgenstein rejected the idea of philosophical theories (64-70). In this context, it was inevitable that Quine's criticism of the analytic/synthetic distinction, which targeted Carnap's metaphilosophy by criticising the discontinuity between science and philosophy ruled out interest in Wittgenstein's metaphilosophy: "Quine's "continuist" theses were at odds with the metaphilosophical views shared not only by Carnap but also by Wittgenstein" (84).

Chapter 4 addresses the ways in which Wittgensteinians failed to react to Quine's hegemony. Tripodi explains this phase by a cultural transformation undergone by the academic system in the United States, which promoted the model of natural sciences in the humanities during the 1950s and 1960s (103) and favoured Quinean views about the continuity between philosophy and science (105-06, 110-12). With these premises in place, Tripodi affirms that "the history of analytic philosophy took its course under the influence of Quine, and the Wittgensteinians did not provide a commensurate response" (92). All this was a consequence of Quine becoming the leading figure in the analytic world, moving it toward naturalism, and of Wittgensteinians' being unaware of its implications (namely that the Quine-Carnap dispute would condemn them to irrelevance), incapable of providing an alternative to the dominant paradigm (as their views on philosophical theories and on the science/philosophy divide left them almost unarmed), and belonging to a declining world (as mostly enlisted in British academia when US philosophy became hegemonic).

Chapter 5 tells how Wittgenstein gained popularity, achieving a better reception of his later views in the United States during the 1950s and 1960s thanks to philosophers like Wilfrid Sellars and Stanley Cavell. This trend changed during the 1960s and 1970s, when 'scientific realism' became popular within US analytic philosophy, marking a distance from Wittgenstein even in the cases of otherwise sympathetic authors such as Hilary Putnam and Sellars (143-44). Even more importantly, Wittgenstein's legacy was contested in connection with one of its main axes: the distinction between 'reasons' and 'causes' in the philosophy of mind and action. Here, it was Donald Davidson's famous 1963 paper,[4] taken for some decades as a serious challenge to that distinction, which contributed to discrediting Wittgenstein's views in US circles—that Davidson's view entailed serious consequences for the tenability of the distinction, as Tripodi nicely highlights, is now disputed as the issue proved terminological (152-54). Another stage of Wittgenstein's decline was the return of mentalism; the new phase, fostered by cognitive science and new reductionist approaches, discredited Wittgenstein's philosophy of mind as 'behaviouristic' (156-57). Finally, Wittgensteinian views on grammar were contrasted with Noam Chomsky's 'generative grammar'; once again, Wittgensteinians were perceived as defending non-scientific views (167).

Chapter 6 explores other aspects that contributed to a "weakening of the later Wittgensteinian tradition" (171). New work on modality made available by Saul Kripke and Davis Lewis started a revival of metaphysics that is still a dominant trend. This does not mean that metaphysics was hostile to Wittgenstein's

[4] Davidson, D. 1963, "Actions, Reasons, and Causes", *The Journal of Philosophy*, 7, 685-700.

philosophy; rather, it contributed to moving philosophical debates elsewhere. However, Wittgenstein's ideas did not fit this new phase: he understood necessity in a Kantian way as a 'logical' category (172-73); moreover, he also defended in the *Tractatus* a notion of 'fact' as inherently contingent (174). These concepts in the meantime became obsolete as implicitly defeated by Quine's criticism of analyticity. Kripke's 'a posteriori necessities'—the fact that identities like 'Hesperus=Phosphorus' can be necessary even though we need empirical inquiries to know about them—had a crucial role in obscuring not only Wittgenstein, but also Quine and Logical Positivism (176). Lewis's modal realism, finally, inaugurated the season of the now dominant metaphysics (179-81). Yet, the main event here was a change in the conception of philosophy as constructive, systematic, and science-oriented. The only camps where Wittgenstein's influence played some role in those years are found in Britain, with Peter Strawson and Michael Dummett. Although neither of them can be understood as defending Wittgenstein's metaphilosophy, Wittgenstein is undeniably relevant in their works (186-87). However, Tripodi emphasises, it is here that Wittgensteinians found their dead end, as Strawson and Dummett ultimately subscribed to an idea of philosophy that was constructive and systematic in a way mostly incompatible with ordinary language philosophy. Therefore, this decline took its last step namely in matters of style and metaphilosophy:

> The decline of the later Wittgensteinian tradition […] is perhaps condensed here, in the science-oriented, rather than humanities-oriented philosophical style of the two most authoritative Wittgenstein-inspired philosophers in Britain in the 1970s and 1980s (189).

If Strawson and Dummett moved that tradition to a dead end, philosophers like Williamson working on mostly Lewisian foundations can be seen as having put a tombstone on it, even in Britain.[5]

Chapter 7 ends the book and concerns recent times, when Wittgenstein's decline became apparent. It was already evident in the 1980s and quickly gained speed. After a brief recap of the book, Tripodi presents bibliometric evidence, concerning co-citations of the *Investigations* in recent decades, of the relevance and scope of the decline of the Wittgensteinian Tradition (205). Sociology of academia certifies the trend, signalling a comparatively low success rate of Ph.D. candidates who chose Wittgensteinian topics for their dissertations in the years 1981 to 2010 (212). This fact receives correct emphasis with Tripodi's comparison of it with the years 1950 to 1960, when Wittgensteinian candidates were as successful as others. However, as the *zeitgeist* was not per se hostile to Wittgenstein, this decline seems to be a consequence "'of a process driven from the top, […] guided by […] those academics who hold the power of influencing the recruitment policies in philosophy departments'" (212).

The contribution of Tripodi's book to a right relocation of the relationship between Wittgenstein's legacy and current and past trends in analytic philosophy, carefully crafted as it is, does justice also to many unanswered questions in general analytic philosophy. The transformation in the metaphilosophical guidelines explains the main changes undergone and the decline of Wittgensteinian views.

[5] Williamson, T. 2007, *The Philosophy of Philosophy*, Oxford: Oxford University Press. Williamson omits to consider Wittgenstein's metaphilosophy.

Tripodi provides a huge amount of data supporting this reading that is a good map of the socio-economic and cultural causes of what happened, and of the main philosophical arguments which contributed to this decline. Even though some might disagree about the details concerning a controversy, this book is immensely valuable for anyone interested in analytic philosophy, and not only its history. It is one of those books in which readers can find and appreciate contents depending on their interests and sensitivities, and recommended for all who are interested in these issues, not to mention those interested in Wittgenstein.

Closing this story with Williamson's metaphilosophy (190-95) may leave the reader with the feeling that analytic philosophy reached an equilibrium with the triumph of metaphysics and naturalism. Even though this is to be expected for books about history of philosophy, the situation can be remedied by examining more recent developments. The rapid resurgence of 'conceptual engineering'—a metaphilosophical stance that understands philosophy as a mainly conceptual endeavour—is a growing trend to which belong, for instance, world-class analytic philosophers like Sally Haslanger, Amie Thomasson, and David Chalmers. This is not enough to reclaim the legitimacy of a Wittgensteinian conception, but surely quite Carnapian views are once again live options. Furthermore, analytic metaphysics has been forcefully challenged by the scientistic arguments of James Ladyman and Don Ross as 'neo-scholastic', that is mostly incompatible with a sound naturalism.[6] Thus, how these metaphilosophical views will develop in the years to come remains to be seen.

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[6] Ladyman, J. and Ross, D. 2007, *Every Thing Must Go. Naturalized Metaphysics*, Oxford: Oxford University Press. Analogue criticisms show up also in the anti-reductionist camp. See for example Price, H. 2011, *Naturalism Without Mirrors*, Oxford: Oxford University Press, and Putnam, H. 2004, *Ethics without Ontology*, Cambridge, MA: Harvard University Press.