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Towards a Materialist Reading of Thorstein Veblen's Notion of (Economic) Institution[1]

Keywords
Veblen, Cantor, institutions, set theory, habits of thought, instincts

Abstract
Thorstein Veblen once considered his work on instincts to be his only important contribution to economic theory. Instincts are the conditions and causes behind the formation of habits of thought, while the latter are the *sine qua non* elements of institutions. The article poses the question: If Veblen's relation instincts-habits of thought-institutions were to be thought of as a formal system, what role would they conceptually occupy? It interprets habits of thought as pure ideas in a Platonist fashion (eidos)—multiplicities thought as Ideas—conceived by Georg Cantor's theory of manifolds and philosophically assessed by Alain Badiou positing that "mathematics is ontology". The article aims: (1) to show how habits of thought, as institutions, abstracted from all content can be thought of as set-theoretic multiplicities; (2) to relate Veblen's prime instinct, the instinct of workmanship, in equivalence with set theory's axiom of the empty set—pointing towards Veblen's materialist orientation.

K materialističnemu branju pojma (ekonomske) institucije pri Thorsteinu Veblenu

Ključne besede
Veblen, Cantor, institucije, teorija množic, miselne navade, instinkti

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Povzetek
Thorstein Veblen je nekoč dejal, da je študij instinktov njegov edini pomembnejši doprinos k ekonomski teoriji. Instinkti so pogoji in vzroki v ozadju oblikovanja miselnih navad, medtem ko so slednje *sine qua non* gradniki institucij. Članek zastavlja sledeče vprašanje: kakšno konceptualno obliko bi zavzela Veblenova relacija med instinkti-miselne navade-institucije, če bi jo zastavili kot formalni sistem? Pri tem miselne navade razume kot čiste ideje v Platonovem smislu (*eidos*) – množtva mišljena kot Ideje –, kot jih podaja teorija matematičnih množic Georga Cantorja ter filozofsko osmišlja postulat Alaina Badiouja »matematika je ontologija«. Namen članka je: (1) pokazati, kako so miselne navade, ki privzamejo obliko institucij, abstrahirane od vse vsebine, lahko formalno mišljene kot matematične množice; (2) povezati Veblenov ključni instinkt, delovni instinkt, v ekvivalenco z aksiomom prazne množice in s tem nakazati Veblenovo materialistično orientacijo.

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Introduction: What Institution?

Imagine yourself entering a building that rises on rough cut black granite blocks in Brunkebergstorg, Stockholm. Or standing in front of a thirteenth-century mansion at *rue Cabanis*, a complex overstretching the fourteenth arrondissement in Paris. Or perhaps taking a boat tour to the Isla de los Alcatraces lying in front of the San Francisco Bay area, known under its more famous sobriquet of The Rock. How would an ordinary person generally describe all of these sites? What would they deem them to be when thinking about their actual representations, or rather, what would they signify to them? If they were to use just one word, what reference would they grant them? They would probably claim to be seeing an (economic, medical, correctional) institution. Or perhaps even something more emphatic—*the* Institution. We can take any number of other examples, also from the business world: the greenish park-like Googleplex in Mountain View, or the sturdy, brown brick Volkswagen façade in Wolfsburg. Indeed, when called upon to make factual generalizations of any great societal achievements, a cautious observer would most surely succumb to such eloquent *prima facie* reasoning. Unquestionably, these kinds of exercises tend to promote a "romanticized" and entertainment referencing of institutions in their appearances, highlighting their positive content, accumulated in the course of cultural growth. What is far more

seldom observed is a critical debunking of the mediation between their content and forms—to verify this conjecture, one need not go further than to ask whether one would also consider and elaborate on marriage and family, religion, state, money, law, and language as also counting as institutions.

Abstracted from specific names and sites, our above itinerary implicitly postulates a determinate social fabric, composed of different entities and phenomena, that come to be experienced by human subjects as their immediate social objectivity—*an institutional framework*. But to posit a determinate social fabric, or an institutional framework, one inevitably has to presuppose a variant of materialism (or idealism), out of which this entire "social fabric" can initially originate. The history of Western philosophy traditionally attributes the first appearance of materialism to the work of the atomists, who were simultaneously also the first to emphasize the material significance of the void, i.e. non-being, against being. This latter duality inaugurates the primordial choice and decision in Western philosophy, one proposed by Parmenides, i.e. that one can either follow the path of being (*truth*) or that of non-being (*void*). This implied choice gave modern figures such as Hobbes (mechanical materialism), Feuerbach (anthropological materialism), Marx and Engels (historical materialism), and Veblen (technological materialism/determinism) grounds to introduce their own versions of materialist thought.

In France, the last decades have slowly brought a new (potential) turn in contemporary philosophy, particularly through the works of Cornelius Castoriadis and Alain Badiou, whose oeuvres fall under the mathematical field of "set theory ontology." Our claim in this paper will be that such an approach to ontology, relying either on Cantor's naïve set theory or Zermelo-Fraenkel set theory, can be fruitfully extended to rearticulate the "ontological" plane of Thorstein Veblen's institutionalist social fabric—*via the habits of thought conceived as formal preconditions for institutions*.

From the above two paragraphs we can deduce our main thesis and object of analysis (1) and the auxiliary background thesis (2):

(1) Thorstein Veblen is one of the very last *materialist* economic thinkers to have significantly questioned the object of knowledge in economic theorizing;

(2) A new turn is potentially unfolding in the field of contemporary philosophy—let us, speculatively, call it—a (neo)mathematical turn.

To approach Veblen through the postulate "mathematics is ontology," we will commence with the following question: What if the economic-anthropological institutionalist thought of Thorstein Veblen already entails a determinate *formal* inscription of social categories and ontology on its own? What if his theory of instincts elaborated in *The Instinct of Workmanship* already delineates an ontological schema of the social realm? Here we steer our inquiry to the concurrently renewed interest in Veblen's theory of instincts,[2] adding to the scarce research done compared to other aspects of Veblen's work. In order to progress towards a conclusion, we will seek a new formalization of his institutional framework, a model,[3] resting on his theory of instincts while echoing in the background the mathematical "set-theory ontology" project of Badiou.[4] Consequently, with this article, we expect to complement the immense research already done by opening up new grounds for mitigating the hampered conjunction of contemporary (heterodox) economic discourse with recent developments in contemporary philosophy. We will therefore work and deliver our arguments in a new discur-

2 Cf. Felipe Almeida, "The Psychology of Early Institutional Economics: The Instinctive Approach of Thorstein Veblen's Conspicuous Consumer Theory," *EconomiA* 16, no. 2 (May–August 2015): 226–34, https://doi.org/10.1016/j.econ.2015.05.002; Christian Cordes, "Veblen's 'Instinct of Workmanship,' Its Cognitive Foundations, and Some Implications for Economic Theory," *Journal of Economic Issues* 39, no. 1 (March 2005): 1–20, https://doi.org/10.1080/00213624.2005.11506778; Noriko Ishida, "Thorstein Veblen on Economic Man: Toward a New Method of Describing Human Nature, Society, and History," *Evolutionary and Institutional Economics Review* 18, no. 2 (September 2021): 527–47, https://doi.org/10.1007/s40844-020-00194-x; William Waller, "Reconsidering Thorstein Veblen's Use of Instincts," in *The Anthem Companion to Thorstein Veblen*, ed. Sidney Plotkin (London: Anthem Press, 2017), 39–68.

3 Here, the word model is understood as a concept within the mathematical *model-theoretic* approach, positing natural or formal languages as set-theoretic structures with a determinate logic and universal algebra, i.e. syntax, semantics, truth values, and relations between them. Following Alfred Tarski, model theory accounts for a "semantic" conception of truth, where every "true" interpretation of a formal system represents a model of it. Thus, a model "interprets" a formal system if the axioms of this system hold true for primitive elements and objects along with the relations between them.

4 See Alain Badiou, *Being and Event*, trans. Oliver Feltham (London: Continuum, 2005).

sive and methodologically heterodox approach—resembling a kind of *archaeology of knowledge*.[5]

We accordingly focus our efforts on a close reading of Thorstein Veblen's theorizing on institutions *qua* habits of thought, mediated through instincts. Due to spatial constraints, we will focus our discussion only on the first and by far the most important of Veblen's instincts, *the instinct of workmanship*, and derive its equivalence to the first axiom of ZF set theory, *the Axiom of the Empty Set*, as far as they both reflect precisely the materialist core of the respective projects.

We proceed with the following section, which introduces our own set-theoretic grounding of the habits of thought and institutions, conceived as (in)different multiplicities. We further proceed by establishing a link between Veblen's instincts and formal axioms of ZF set theory and focus on the most basic of instincts and axioms to expound on the materialist comprehension of Veblen's and Badiou's oeuvres. In the last section, we give some concluding remarks and propose avenues for further research.

Institutions as Sets of Indifferent Multiplicities

Before going into our elaboration and argument for a more "generalized" working definition of Institution, let us first provide some definitions of the notion of institution as they are forwarded by (economic) institutionalists such as Veblen—and his successor on the topic, Clarence Ayres—supplemented by the philosophical definitions of John R. Searle and Alain Badiou:

> As a matter of course, men order their lives by these [the current, business-like scheme of economic life] principles and, practically, entertain no question of their stability and finality. That is what is meant by calling them institutions; they are settled habits of thought common to the generality of men. [. . .] Like all human culture this material civilization is a scheme of institutions—institutional

5 See Michel Foucault, *Archaeology of Knowledge*, trans. A. M. Sheridan Smith (London: Routledge, 2002).

> fabric and institutional growth. But institutions are an outgrowth of habit. The growth of culture is a cumulative sequence of habituation.[6]

> All are forms of social organization and as such parts of a larger whole which is organized society. Thus it appears that what we mean by institutions is the parts, and sub-parts, and sub-sub-parts, into which analysis resolves the whole substance or content of organized society. [. . .] the term "institution" is not a structural category. That is, it does not refer merely to the division of the total substance of society into its constituent parts. It is rather a functional category. As such it has reference to a certain type of social organization, or a certain aspect of social behaviour, which is qualitatively different from another aspect, or aspects, one in which different forces are at work to different effect from those to be observed in the other aspect, or aspects, of social organization.[7]

> An institution is any collectively accepted system of rules (procedures, practices) that enable us to create institutional facts. These rules typically have the form of *X counts as Y in C*, where an object, person, or state of affairs *X* is assigned a special status, the *Y* status, such that the new status enables the person or object to perform functions that it could not perform solely in virtue of its physical structure, but requires as a necessary condition the assignment of the status. The creation of an institutional fact is, thus, the collective assignment of a status function.[8]

> A philosophical institution is a procedure of conserving a knot, a knot in danger of being cut, which would cause its components to disperse. [. . .] What is the knot in question? I announced it in the sub-title: it is a knot that ties together an address, a transmission, and an inscription.[9]

12 This shortlist is far from exhaustive, but it sufficiently outlines the scope in our searching for a "working" definition with Veblen providing the core anthropologic-economic *conceptual apparatus*, Ayres delineating its *structural/function-*

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6 Thorstein Veblen, *The Place of Science in Modern Civilisation and Other Essays* (New York: B. W. Huebsch, 1919), 239, 241.

7 Clarence E. Ayres, *The Industrial Economy: Its Technological Basis and Institutional Destiny* (Boston: Houghton Mifflin, 1952), 42–43.

8 John R. Searle, "What is an Institution?," *Journal of Institutional Economics* 1, no. 1 (June 2005): 21–22, https://doi.org/10.1017/S1744137405000020.

9 Alain Badiou, *Conditions*, trans. Steven Corcoran (London: Continuum, 2008), 27.

al configuration, and Searle describing the generally accepted *underlying operating logic* of the notion *institution*. And correlatively, is it not Badiou's (Lacanian) definition of *philosophical institution* delivered in his *Conditions*, namely of address/initiation/void, transmission/settlement and inscription/institution, precisely a synchronic counterpart of Veblen's axis instincts-habits of thought-institutions? The derivation of this axis is also the general inclination underlying this inquiry. First, however, our aim here is not to search for an "aggregate" or "the least common denominator" abstracted from the concept of *institution* in the above definitions, but rather to seek out our own coextensive definition in set-theoretic language.

Before we begin with a formal exposition of *institutions conceived as sets*, we will first make use of the above wider-context definitions to propose our working definition of the concept institution. As indicated, it would be almost impossible to derive a unifying conception of the notion institution, however we can offer some cross-sections when reiterating these elaborations. Accordingly, let us posit our definition in the following manner:

Habits of thought are in-themselves institutions. They are indifferent multiplicities, presented/counted as a collection or a set of elements and organized according to a determinate relation of belonging. Different collections of multiplicities, i.e. habits of thought, also count as one—they are made consistent, i.e. can be re-presented under some determinate law (of second count).

A scholar with an affinity for foundational mathematics will have seen a similar kind of definition in a seminal text on the grounding of set theory in Georg Cantor's *Grundlagen einer allgemeinen Mannigfaltigkeitslehre* [Foundations of the Theory of Manifolds].[10] The reason for this will be made clear; we will maintain throughout this article that the *(ontological) structure of an institutional framework adheres to the logic(s) of multiplicities*. These can be either inconsistent or consistent—i.e. presented only in the pure form of elements of sets, or in the latter case, a collection of determinate elements being counted-as-one, again presenting a (new) set (of multiplicities). The further act of distributing

[10] Georg Cantor, "Foundations of the Theory of Manifolds," trans. Uwe Parpart, *The Campaigner. The Theoretical Journal of the National Caucus of Labor Committees* 9, no. 1–2 (January–February 1976): 69–96.

and aggregating elements/multiplicities therefore comes as an effect of counting elements that count-as-one—a new set as a part of a given collection of multiplicities—produced under some determinate law (of second count, the first already present in what was to be presented/made consistent at all). We say that to consist means to be existent. Consequently, to be subsumed under a *determinate relation*, to paraphrase Cantor, is to be *thought* as a One or a totality, thus bringing us in parallel with Plato's positing of forms, or rather, *ideas* (εἶδος).[11]
In the article, we will focus on the analysis of *settled habits of thought* as proposed in Veblen's institutional economics. Veblen, to whom we by all means attribute a thorough philosophical comprehension of economics, for instance, deals with the category of the *idea* in relation to the *habits of thought*—the particular substance that "makes" the institutions. This fact can be most clearly extracted in his *The Theory of Business Enterprise*, where he tracks them in the context of pecuniary norms invading the domain of older institutions to which "the notion of a pecuniary liquidation seems to have been wholly remote from the *range of ideas—habits of thought*—on which these relations and duties were originally based."[12] A few pages later he expresses them even more correlatively:

> With this change in the dominant interests of everyday life came a corresponding change in the discipline given by the habits of everyday life, which shows itself in the growth of a *new range of ideas* as to the meaning of human life and a new ground of finality for human institutions. *New axioms* of right and truth supplant the old as new habits of thought supersede the old.[13]

Veblen here enigmatically indicates that he might be endorsing a conception of *the idea*[14] premised as a system of axioms[15] (Veblen also uses the term princi-

11 See Cantor, 93.

12 Thorstein Veblen, *The Theory of Business Enterprise* (New York: Charles Scribner's Sons, 1904), 70; italics added.

13 Veblen, 76; italics added.

14 The question can be raised as to what kind of understanding of the notion of the idea Veblen presupposes. In this regard, two key influences on his thought come to mind: Immanuel Kant and Charles Sanders Peirce. The former introduces a metaphysical and transcendental approach to ideas, while the latter is concerned with clarity and distinction in terms of logical aspects of an idea.

15 Veblen comes closest to explaining this fact in *Absentee Ownership*, where in a footnote he gives yet another variant of the definition that "an institution is of the nature of a usage which has become axiomatic and indispensable by habituation and general acceptance."

ples interchangeably for habits of thought) and presupposing its determinations in the prevalent habits of thought. Furthermore, he interprets men's habits of thought as "i.e., their ideals and aspirations, their sense of the true, the beautiful, and the good,"[16] fairly obviously indicating a Kantian contour of his understanding of these categories and what the habits ought to encompass. The general influence of pragmatist philosophy on Veblen is today undisputed; however, a much lesser amount of emphasis and credit is given to signs of Kant's shadow in his theorizing. Particularly when one takes into account, as observed by Heidegger, that Kant is a philosopher of the axiom "*par excellence*."[17] Therefore, we follow the thesis that this is also a crucial step for Veblen; the presupposition of (axiomatic?) philosophical categories in his mode of presentation enables his mission to develop "a genetic inquiry into institutions that will address itself to the growth of habits and conventions."[18] Cantor for instance, similarly as Veblen, also relied on Darwin, in search of a "genetic" or, in his words, "organic explanation of nature,"[19] resting precisely on a theory of manifolds or sets that would supersede a mechanical interpretation of nature. The *transmundane character* of habits of thought can be observed in the following passages, emphasizing that they are "a matter of tradition out of the past, a legacy of habits of thought accumulated through the experience of past generations [. . .] in which the instinctive ends of life are worked out under any given cultural situation is somewhat closely conditioned by these elements of habit, which so fall into shape as an accepted scheme of life."[20] If we succumb to the conception of *the habits of thought*, to be understood as a category of *idea or eidos*, what then becomes of a "determinate law" that "re-makes" an indifferent manifold of elements into a consistent multiplicity to count-as-one? Its function is to demarcate the invariable protocol(s) of "formal" operations or processes that elicit the shaping of a determinate institutional fabric, composed of many count-as-ones, those which historically form specific habits of thought. Veblen put it perfectly

See Thorstein Veblen, *Absentee Ownership and Business Enterprise in Recent Times: The Case of America* (New York: B. W. Huebsch, 1923), 101n1.

16 Veblen, *Place of Science,* 438.

17 See Martin Heidegger, *The Question Concerning the Thing: On Kant's Doctrine of the Transcendental Principles*, trans. James D. Reid and Benjamin D. Crowe (London: Rowman and Littlefield, 2018), 128.

18 Thorstein Veblen, *The Instinct of Workmanship and the State of the Industrial Arts*, new ed. (New York: B. W. Huebsch, 1918), 2.

19 Cantor, "Theory of Manifolds," 76.

20 Veblen, *Instinct of Workmanship*, 7.

straightforward: *instincts designate the modes and possible structures for the formation of habits of thought*. The proceeding sections will investigate the general possibility of transcribing, or "formalizing," instincts as building principles of habits of thought into a minimal axiomatic system capable of deriving an institutional framework in a similar fashion as that in mathematics and with Badiou in philosophy. Why choose mathematical axioms? Veblen himself provides a possible answer when he discusses and distinguishes pure mathematics from applied mathematics and statistics in economics:[21]

> Mathematics is peculiarly independent of cultural circumstances, since it deals analytically with mankind's native gifts of logic, not with the ephemeral traits acquired by habituation.[22]

Axioms entail a mode of axiomatic thinking of undefined terms, of yet-to-become multiplicities, an un-teleological thinking of progress. Sticking to the "basic" imposition of set theory, as proposed by its initiator—Georg Cantor—and committing to a more literal reading of the developed axioms of set theory, let us now see how we can use axioms to formalize instincts and create a potentially infinite range of situations.

Deleuze and Zermelo-Fraenkel as Expositors of Veblen

First, we hold that axioms prescribe "formal" operations and rules according to which different ideas, i.e. habits of thought, can be composed, or put differently, are made to be(come), to exist. The axioms of a formal system, in our case the axioms of an institutional framework, are those that posit the minimal rules necessary for sustaining such a system. Observing Veblen's theory of instincts, one can extract from it both the aim and the subjective driving force of human action. Naturally, his interpretation of instincts is a product of his time (the last decade of the nineteenth century stemming from the works of the "University of Chicago Darwinists"—early John Dewey, Conway L. Morgan, and Jacques Loeb—and others such as Harvard's William James and Duke's William Mcdougall)—

[21] See James Wible, "Why Economics Is an Evolutionary, Mathematical Science: How Could Veblen's View of Economics Have Been So Different Than Peirce's?," *Journal of the History of Economic Thought* 43, no. 3 (September 2021): 350–77, https://doi.org/10.1017/S1053837220000450.

[22] Veblen, *Place of Science*, 52n3.

the time of rising anthropologico-psychological interpretations of instincts, but also the first definitions in the psychoanalytical approach of Sigmund Freud—divided between biological, self-preservational, and libidinal instincts (or distinguishing between instincts and drives). Veblen starts off with *tropismatic* action, which is an animal-like simple reflexive action towards basic life-supporting and necessary self-preservation needs; he then proceeds to *quasi-tropismatic*, *half-tropismatic*, or *physiological reactions*, which are in a sense also self-preservational, e.g. anger, promptings of sexual intercourse (without pleasure), and mimic teleological action, but are actually with "no consciousness of purpose," and lastly formulates *instincts* for intelligible action and conscious pursuit of an objective end, a libidinal-ego-drive attaining satisfaction. For Veblen, but also for associationist or evolutionary psychology and early Freudian psychoanalysis, the former of these instincts are observed in both animals and humans, while the latter are exclusive to humans. At the time of Veblen's writing, the different strands in psychology had not yet compiled a consistent theory of instincts, leaving him to develop his understanding of actions and instincts in his own evolutionary analytical framework. How the instincts and institutions eventually disjunctively overlap was later succinctly captured by Gilles Deleuze in his readings of David Hume (and, apparently, by also becoming an implicit interpreter of Veblen):

> The institution is a system of means, according to Hume, but these means are oblique and indirect; they do not satisfy the drive without also constraining it at the same time. [. . .] The difference between instinct and institution is this: an institution exists when the means by which a drive is satisfied are not determined by the drive itself or by specific characteristics.[23]

As we can see, for Deleuze, there is a disconnect between instincts/drives and institutions—to overcome this gap, the notion of tendency (i.e. habit of thought) is invoked—where

> the subject institutes an original world between its tendencies and the external milieu, developing artificial means of satisfaction. There is no doubt that tenden-

[23] Gilles Deleuze, *Empiricism and Subjectivity: An Essay on Hume's Theory of Human Nature*, trans. Constantin V. Boundas (New York: Columbia University Press, 1991), 47.

> cies find satisfaction in the institution: sexuality finds it in marriage, and avarice in property.[24]

Consequently, this positing of a triadic structure invokes habits of thought to attain the form of (culturally or socially constructed) needs as opposed to pure instinctual behaviour:

> But it is clear that such institutions are secondary: they already presuppose institutionalized behaviors, recalling a derived utility that is properly social. In the end, this utility locates the principle from which it is derived in the relation of tendencies to the social. The institution is always given as an organized system of means. The institution sends us back to a social activity that is constitutive of models of which we are not conscious, and which are not explained either by tendencies or by utility, since human utility presupposes tendencies in the first place. [. . .] Every institution imposes a series of models on our bodies, even in its involuntary structures, and offers our intelligence a sort of knowledge, a possibility of foresight as project. We come to the following conclusion: humans have no instincts, they build institutions.[25]

Deleuze[26] very clearly observes that institutions do not derive directly from instincts. They are rather second, they "presuppose institutionalized behaviours" following utility (Hume), rationality (Popper), or some other principle of satisfying tendencies (habits of thought). However, as he points out, these tendencies do not necessarily explain why this or that particular institution has taken place at all. So, while instincts are the main building blocks—we chose to define them as *axioms*—in forming the habits of thought (Hume's reflection of the drive in the imagination),[27] there is a different function of determining what actually exists in a given (socially, culturally, historically, means-of-production) instituted world.

Veblen made very similar observations about instincts and he understood them as a means of shaping the proclivities, tendencies, and doings of human ani-

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[24] Gilles Deleuze, *Desert Islands: And Other Texts, 1953–1974*, ed. David Lapoujade, trans. Michael Taormina (Los Angeles: Semiotext(e), 2004), 19.

[25] Deleuze, *Desert Islands*, 19–21.

[26] For more detailed insight into Deleuze's investigation on instincts and institutions, see Gilles Deleuze, *Instincts et institutions: Textes choisis* (Paris: Hachette, 1953).

[27] See Deleuze, *Empiricism and Subjectivity*, 48.

mals. They were meant to prescribe the general boundaries and rules for the formation of habits of thought, finally rendering possible intelligible comprehension of humanity's pursuit of objective ends. If we were to abstract from instincts all of their inherent hereditary and cultural heritage, we could have established them as primitive relations and functions, connecting various elements of human endeavour, e.g. of their propensities to self-preserve, work, or procreate, their bonding together (individually, racially, etc.) or grouping according to particular traits or capabilities, or making possible a transcodification of an acquired body of knowledge.

What Deleuze extracted in his reading of Hume—drive (instinct)/reflective drive/institution is what we have independently highlighted in Veblen**'s** axis instincts/habits of thought/institutions. Where does such a formalization find its contemporary model? Most strikingly, in the most universal and abstract discipline—mathematics. If Veblen was after a minimal set of instincts that would be the driving force behind the habits of thought and an institutional framework, in mathematics a similarly crucial problem occurred in Cantor's development of set theory. It was the problem of finding the most appropriate (and minimal, i.e. grounded on the primitive relation of belonging Î) axiomatic system that would outline and sustain the architecture for the abstract concept of the *set* in a first-order logic. The resolution of "Russell's Paradox," i.e. the prohibition of the existence of a set of all sets posed by Bertrand Russell in 1903, took a couple of decades (1904–1920s) to finally evolve. It involved a massive amount of reconceptualization, involving names from Gottlieb Frege to Ernst Zermelo, Kurt Gödel, and other prominent mathematicians and logicians, to finally propose a formal axiomatic system for manipulating presented multiplicities figuring as sets. These sets were to be notions without any predicates—collections predicated solely on memberships and organized under curly brackets { } instead of "mere" fusions of parts into wholes. The distinction between the two will come to be highly significant. Whereas fusions can fuse together any type of object in any kind of way, the collections are conceived more restrictively as determinate *containers*, embodying specific members (or also have no members, an impossibility with fusions). Eventually, the axiomatic system[28] of Ernst

[28] For a complete introduction to the foundations of set theory, see Abraham A. Fraenkel, Yehoshua Bar-Hillel, and Azriel Levy, *Foundations of Set Theory*, 2nd rev. ed. (Amsterdam: Elsevier, 2001).

Zermelo and Abraham Fraenkel assumed the role of the most universal system for dealing with sets and became the meta-theoretical framework for mathematics. Considering the limited space available, we will proceed only with the zeroth axiom that corresponds to the formal inscription of the respective ZF axiom and turn to Alain Badiou's philosophical interpretation of "*mathematics is ontology*."

The following paragraphs therefore give a formal presentation of the most elementary axiom in a ZF system, i.e. the Axiom of the Empty Set, which can be related to the corresponding instinct and interpreted in line with Veblen's formulations. But just before we begin our examination, let us first consider this lengthy and crucial passage from *The Instinct of Workmanship*. We find here Veblen endorsing a *logical* grounding[29] of instincts vis-à-vis the habits of thought, especially the instinct of workmanship, the one we will take as the ontological constituent of presented situations:

> It may be called to mind that the body of knowledge (facts) turned to account in workmanship, the facts made use of in devising technological processes and appliances, are of the nature of habits of thought. [. . .] These habits of thought, elements of knowledge, items of information, accepted facts, principles of reality, in part represent the mechanical behaviour of objects, the brute nature of brute matter, and in part they stand for qualities, aptitudes and proclivities imputed to external objects and their behaviour and so infused into the facts and the generalisations based on them. The sense of workmanship has much to do with this imputation of traits to the phenomena of observation, perhaps more than any other of the proclivities native to man. The traits so imputed to the facts are in the main such as will be consonant with the sense of workmanship and will lend themselves to a concatenation in its terms. But this infusion of traits into the facts of observation, whether it takes effect at the instance of the sense of workmanship, or conceivably on impulse not to be identified with this instinct, is a *logical process* and is carried out by an intelligence whose logical processes have in all cases been profoundly biassed by habituation. So that the habits of life of the individual, and therefore of the community made up of such individuals, will pervasively and unremittingly bend this work of imputation with the set of their own current,

[29] Veblen is here actually inferring his own version of Kant's *transcendental schema*.

> and will accordingly involve incoming elements of knowledge in a putative system of relations consistent with these habits of life.[30]

Two Materialisms: Instinct of Workmanship ⇔ Axiom of the Empty Set

We introduce the Axiom of the Empty Set. Although the axioms of Zermelo-Fraenkel set theory usually begin with the Axiom of Extensionality, we start off with the Axiom of the Empty Set because of its equivalence to the *Instinct of Workmanship* that makes it the most fundamental axiom concerned for the present inquiry. First, a formal definition of the empty set: *There exists a set with no members*. Formally defined with symbolic language: (∃x) [~(∃y) (y ∈ x)], or conversely (∃x) (∀y) (y ∉ x). A closer examination reveals we deployed the concepts of existence, set, nullity, and membership; all operators used together in a unified manner. The above comparison of fusions and collections is perhaps helpful here: fusions are only parts of a whole, they always take existence (∃) for granted, consequently there is no definition of set or a belonging relation—they are assembled according to a contingent rule and there can be a manifold of valid combinations. On the other hand, collections do not just aggregate parts into one, but instead use "containers" or simply "sacks" or "clubs" that are usually established on memberships and might just as well have no members. In the latter case, we speak of an *empty set* and assign it the mark ∅. Having laid down the formal definition, we are now in a position to further introduce the philosophical stakes of the empty set. We follow Badiou here, who names it, with a long recourse to various philosophical handlings of the notion, *the void*. The void is the proper name of an empty set, indicated by empty curly brackets { } and marked by the symbol ∅. The proposition is the following: "In set-theory, the void, the empty set, is the primitive name of being."[31] On the other hand, the empty set designates *the* multiple (being) from which all the others result in a sequential application of the succeeding axioms, i.e. *ideas* (εἶδος), or in our case, *habits of thought*. We have already presupposed in the formal definition a mode of existence, but an existence of what? Indeed, the empty set is an indifferent multiple—a multiple of nothing. It is presented in a situation as unpresented and its only mission in the presented situation is to count. However,

30 Veblen, *Instinct of Workmanship*, 176–77; italics added.

31 Alain Badiou, *Theoretical Writings*, ed. and trans. Ray Brassier and Alberto Toscano (London: Continuum, 2004), 57.

empty as such, it is (de)void of any content, it is an unpresentable-existent—what is presented is only the presentation itself, a proper name of being—the void. Only that this multiple, the void, is unlike any other, for it embodies the indifference to any other on a single predicate: it is the existence of nothing. *Omnipresent*, and always subtracted from presentation, i.e. from being counted into the situation, it sutures being to every presented multiplicity. So, the existence of a set with no elements is a negation of the relation of belonging, retroactively positing then also the negation of existence, i.e. of anything differentiable, presentable, or rather, a subtraction of being from the presentable. What is left is a "sutured" trace of being's proper name for the empty set—the void. Moving now to our definition of institutions, we have posited above: *Different collections of multiplicities can also count as one—they are made consistent*; it is precisely this *can* that is the operation based on the appending of the void, for it is an operation of the unity of indifferent multiplicities with the void, enabling them to consist in a situation, that is, to be counted-as-one after they are presented in a situation. Therefore, the void is also the initial "presented" multiplicity. It is without any imputed difference or concept, therefore it has to be of nothing in order to initiate the indifferent operation of forming-into-one.

In the introduction we set ourselves the task of reconstructing a materialist grounding of Veblen's oeuvre while relying on Badiou. In the remaining paragraphs we articulate a historical unfolding and our proposed "archaeological" interrogation of the respective projects. We start from the concept of *nothingness*, which has a long history in Western philosophy. It was Anaximander who first sought to empirically investigate the source and core element of all that exists to be immeasurable in space and boundless in time—the apeiron (ἄπειρον). He was after some indeterminate and primordial substance (void or voidless) that would permeate all sensible things, thus enabling particular determinations for the being-there of things. It seemed feasible that one might consider a formless substance or the void as an *ur*-thing. One outcome of classical reasoning was introduced by Parmenides and Aristotle, both of whom thoroughly questioned the existence of the void. The void would rather encompass non-existence and consequently be a non-being (Parmenides's Oneness), or rather, one would have to understand space as being without a medium or surrounding matter. A being cannot move in place with no substance-content, e.g. in a vacuum (Aristotle)—the void as such is non-being and inexistent. However, there is a school of thought that went on to show that matter qua matter can be conceived

exactly through the presupposition of the void. It comes down to the pre-Socratic atomists and with them Leucippus and Democritus, the former having been educated in the Eleatic tradition (Being is One and indivisible, non-being is not) and trying ever after to oppose it, while the latter was his pupil, who vastly expanded the atomistic insights of his master, inscribing his name into the annals of philosophy in the process. Leucippus held that no substantial thing can ever be elementary, moreover, everything is deemed to be composed of particles floating in an empty space. These particles were to be named atoms, such elements that constitute the natural world as indivisible particles—these atoms do fall in straight lines and into a void space. As atoms, they are by definition unchangeable and indecomposable. It comes down to their (colliding) motion in (an empty) space that confers the matter for a natural world. The crucial step for the constitution of the world is the colliding motion of atoms. The atomists held the starkest opposition between atoms and the void, although the crucial aspect evolved around the motion of atoms that was provoked by the void. In this sense, it becomes a causal relation of the void running on its effects, atoms, i.e. the trajectories of their movement. When the trajectory is curved, or swerved (Lucretius, and later Epicurus), we end up with the concept of a *clinamen*, a trajectory-deviating atom, inducing a collision of atoms and producing a multiple-particle thing. Atomism was indeed the first philosophical tradition to assign a significant role to the void—the first materialist undertaking in the unity of being and void. Having proposed being as divisible (split atoms), the void had become an essential difference compared to atom-composed beings, establishing a medium in which some atoms can deviate (*clinamen*), introducing thingness to the world. It implied that non-being is at the very centre of being. The void comes to envelope different Ones (composed of multiple atoms), so that it belongs and not-belongs to them at the same time.

If we move closer to the present day, progressing through the accumulated thoughts on the void introduced by figures such as Plutarch, Spinoza, Descartes, and Pascal to eighteenth- and nineteenth-century idealism, we again come to see an atomist mode of thought in the work of Hegel, and later also Marx. For Hegel's philosophy, the atomist positing of a split-unity between being and void represented in the concept of the atom represented an idea on how thought ideally proceeds in the mediation of being. The One (being) has the void as a counter-position (non-being), only insofar as being internalizes its opposite, the void,

in its own *split* essence, thus becoming a thing-in-itself.[32] Marx's philosophical and materialist underpinnings also have their origins precisely in the Greek atomist school. Marx himself wrote his doctoral dissertation at the University of Jena on the very topic: *The Difference Between the Democritean and Epicurean Philosophy of Nature*. He endorses the atomism of indivisible principles and elements of either body or void, opting for Epicurus's "autonomist, idealist and potentiality" approach to atoms, being able to freely move in the void against the "empiricist and dogmatic necessarian" stance of Democritus, who believed them to fall into the void in straight lines, accidentally colliding along the way. The Epicurean freedom (giving also a moral sense: happiness or ataraxy) of moving atoms can be understood in Marx as a model of a free abstract self-consciousness liberated from its unhappy maladies. What Marx finds in Epicurus, and sees as lacking in Democritus, is the fact that, to the latter, atoms represent only material substrates falling into the void, while the former saw declination (i.e. swerving) in atoms perturbed by the void. He attributed the concept of *apeiron* to both atoms and the void, introducing the principle of the infiniteness of an all-encompassing *substance*. Marx comes to relate a particular definition to his understanding of the contradiction between existence and essence, matter and form, inherent in the atom itself (recall Hegel), out of which the dialectics of alienation and appearance unfolds.[33] The method acquired becomes well known later and is applied by the young Marx in his *Economic and Philosophic Manuscripts of 1844* in his elaboration of the concept of *estranged labour*. It is man as species-being [*Gattungswesen*] that realizes his own estrangement, the objectification of his labour in order to sustain his subsistence and activity.

We shall not link Marx's concept of the human species-being directly in conjunction with Veblen's instinct of workmanship, but will however maintain that we can ascribe the *universality* of labour, as a generic determination of the human species, to both. Rather, we will propose a unifying moment of defining workmanship as a generic activity of the inconsistent human species, sublating it in a mediated form of consistent "agents seeking to accomplish some concrete, objective, impersonal end"; *mutatis mutandis* with labour as a generic name for

[32] See Georg W. F. Hegel, *The Science of Logic*, ed. and trans. George Di Giovanni (Cambridge: Cambridge University Press, 2010), 133–35.

[33] See Karl Marx, "Difference Between the Democritean and Epicurean Philosophy of Nature," trans. Dirk J. Struik and Sally R. Struik, in *Karl Marx, Frederick Engels: Collected Works* (London: Lawrence and Wishart, 1975–2004), 1:61–62.

man's essence, or void as a proper name of being, or the void as the proper place of an atom's universe. The instinct of workmanship thereby pertains to each and every human being, this also precisely being the reason why it is always subtracted from immediate presentation. We never talk about workmanship or labour "in general," rather we speak of some determinate laborious endeavour or some particular human activity with a means to an end. However, observed from the other side, what makes or counts the tasks man eventually accomplishes as presented is the workmanship instinct, which always remains in the background, foreclosed. It is a hidden remainder, prohibiting the existence of the Whole, i.e. a closed-in totality; instead, it opens a gap, making it non-All as an unfolding infinite sequence of progressing change. Workmanship as a void is sutured on every elemental presentation of human agency; it verifies the deciding step from inconsistent human-intelligible pre-thought to a consistency of habit of thought. In Veblen, we can abstract to several distinct comprehensions of the instinct of workmanship, of which we highlight two: (i) this instinct is differentiated from other instincts, as it is an "auxiliary to all the rest, to be concerned with the ways and means of life rather than with any one given ulterior end,"[34] but it simultaneously also evinces (ii) a conduct of practical expediency, efficiency, creative work, and the technological mastery of facts—"Much of the functional content of the instinct of workmanship is a proclivity for taking pains."[35] What does it mean to be an auxiliary to all the rest? Is this actually not a minimal condition, or put differently, the least bound, on which the habits of the human animal rest? One should approach it precisely from the opposite side—an auxiliary is universally presented (as the void is to every atom) in every formation of the habits of thought. As such, it leads to "more" ulterior ends, i.e. to the formation of higher-end habits of thought. To the second, if we call on the "proclivity for taking pains," do we not invoke here precisely the Freudian *death drive*, the pleasure in pain principle, an invoked empty space in the human animal's being in which workmanship can deploy itself to begin an (ac)count of its own actions?

Conclusion

Our reading of Veblen follows suit by paraphrasing Deleuze that there would be no institutions if it were not for habits of thought. But habits of thought have,

34 Veblen, *Instinct of Workmanship*, 31.

35 Veblen, 33.

on the other hand, a specific set of rules of inference and, as with every set of rules, there has to be an initial proposition, as we always have a zeroth axiom, the one most coextensive with all other axioms. Set theory made this out of the Axiom of the Empty Set, just as Veblen made grounds for his theory of instincts on the instinct of workmanship. The empty set *qua* void is by definition a contentless entity, it is without a referential concept, for if it had any determinate content it would immediately count-as-one and consequently be differentiated in a structure—it would be made primordially consistent and we would end up in an impasse, as we find in (formal) languages. The instinct of workmanship is similar; taken as a pure abstract notion, it has no consistency—there is no human action without a concrete aim, an objective end; we know not of *abstract* human action—therefore it will be an always-already vanishing term for every institution. It goes as a corollary to the fact that the instinct of workmanship is *universally* present, that it negates any determinate differentiation, as opposed to all other presented terms.

By way of concluding the article, we hope that our ulterior motive has unveiled itself by now: *a philosophical interpretation of Veblen's materialism*—of instincts forming the habits of thought reflected in institutions as forms of appearance. Veblen himself quite clearly expressed his materialist stance, in particular with respect to Marx's own materialism, inscribing his name firmly in the philosophical tradition of materialist thinkers.[36] We have suggested that Veblen's variant can be traced back to his theory of instincts, as well as to his later writings on technological determinism. With the latter, in a sense, he even hardens the materialist conception, thus handing over the task of a future elaboration of a materialist groundwork capable of sustaining different elements of his theoretical body—from cumulative causation and unteleological processes to the instinctual behaviour of the human species—in a contemporary dispositive of tackling (in) completenesses and (in)consistencies. We therefore propose, following the initial materialism of the void of the Ancient Greeks, to postulate his primordial instinct of workmanship as *the* being of the human species. Following Badiou, it is the void as the only self-referential, self-belonging object, the proper naming of the void and henceforth the counting-as-one multiplicity, that has the potentiality to induce the motion of matter; and whilst doing so, it simultaneously engenders a topological space procuring matter to contingently spill itself over it. In Veblen's

[36] See Veblen, *Place of Science*, 415–17.

case, it is the instinct of workmanship that sets his materialism in motion, constructing the hierarchical world of institutions in literally the same fashion as the empty set institutes the entire cumulative hierarchy of sets—the Universe V.

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