

Cognitive Intertexts of *Estructura dinámica de la realidad*, or Aristotle Dynamized*

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Abstract

Translating into English and annotating *Estructura dinámica de la realidad* has offered new cognitive insights into Zubiri's philosophical evolution. (1.) To Scholasticism he owes his desire for infinitesimal precision, hence, for the reconciliation of philosophy with current science. Part of this debt lies in the probable origin of his term *de suyo* ("in its own right"), from the Scholastic thinker Suárez. (2.) Zubiri also relies much upon Ortega, through whom he came into contact with Heidegger, Husserl, and contemporary scientists mentioned in EDR. (3.) Zubiri shares Ortega's fascination with Aristotle's conception of δύναμις, potency, which he absorbs into his own metaphysics of becoming. Not being, but reality has an active moment consisting of giving of itself, "becoming" in a dynamic structure which encompasses the whole world order, wherein every dynamism subtends a more specialized, elevated one. Within this world order, Hegel essentially affects only two higher dynamisms, the dynamism of history and the dynamism of society, while Aristotle affects virtually all other dynamisms, enabling Zubiri to map out his own metaphysics of becoming, though often proposing different routes from those set out by the Stagirite. Therefore, EDR is more Aristotelian than Hegelian, contrary to usual opinion.

Resumen

El proceso de traducir y anotar *Estructura dinámica de la realidad* ha proporcionado nuevos hallazgos cognoscitivos sobre la evolución filosófica de Zubiri. (1) Al escolasticismo debe su deseo de precisión infinitesimal, por tanto, su reconciliación de la filosofía con la ciencia más corriente. Gran parte de esta deuda consta del probable origen del término *de suyo* en Francisco Suárez. (2) Zubiri cuenta, además, con Ortega, su puente a Husserl, a Heidegger y a los científicos contemporáneos aludidos en EDR. (3) Zubiri comparte con Ortega una fascinación por la concepción aristotélica de δύναμις, potencia, la cual él asimila a su propia metafísica del devenir. No el ser, sino la realidad tiene un momento activo que consiste en dar de sí, "devenir" en una estructura dinámica que abarca al orden mundial entero, dentro del cual todo dinamismo subtiende a otro más especializado y elevado. Dentro del orden mundial, Hegel afecta esencialmente a sólo dos dinamismos superiores, el dinamismo de la historia y el dinamismo de la sociedad, mientras que Aristóteles afecta virtualmente a todos los otros dinamismos, posibilitando la estructuración de la metafísica zubiriana del devenir, aunque también la frecuente independización de Zubiri frente al Estagirita. Por ende EDR es más aristotélica que hegeliana, al contrario de la opinión usual.

* [Nelson Orringer's translation of *Estructura dinámica de la realidad* will be published by the University of Illinois Press in the summer of 2003 under the title *The Dynamic Structure of Reality*.—ed.]

*Aristóteles ha creado de una manera imperecedera para el resto de la historia humana la idea de una filosofía como ciencia apodíctica. Es magnífico discurrir a lo largo de los diálogos de Platón; pero junto a ellos, una de esas páginas de Aristóteles apretadas de epísteme es menos brillante, y a veces, tal vez, menos rica en pensamientos, pero infinitamente superior en rigor de conocimiento.**

(Zubiri, "Aristóteles," 55).

I. Introduction

In one of his last published interviews before his death in 2001, Pedro Laín Entralgo expressed his admiration of Zubiri for his expertise in the latest philosophy and science without sacrificing his religious faith.¹ Faith and cognition harmonize in Zubiri's posthumously published course *Estructura dinámica de la realidad*,² a work valuable for understanding his evolution as a whole. EDR incorporates much doctrinal material employed previously, as well as ideas to be developed in subsequent works. It belongs to the period of *Sobre la esencia* (1962),³ yet points in the direction of *Inteligencia sentiente* (1980).⁴ Having translated EDR to English, tried to paraphrase its less transparent passages, and annotated all its references to proper names, I have unexpectedly come into possession of unexplored keys to Zubiri's cognitive insights. Further, in the learning process, I have found palpable errors in transcription from the oral to the written version of the work. However, these mistakes come as no sur-

mistakes come as no surprise in view of the great difficulties that Zubiri's text obviously presented to its first editor, Diego Gracia Guillén, and has continued to present to me, as its second; for Zubiri's course spans a dauntingly wide variety of fields: ontology, classical physics, topology, special and general relativity, quantum mechanics, astro-physics, embryology, paleoanthropology, philosophy of society, and philosophy of history. He joins Aristotle, Leibniz, Locke, Kant, and Hegel in commanding multiple disciplines of his times. Stimulated by criticism of *Sobre la esencia* as excessively static in its approach to being,⁵ Zubiri elaborates a philosophy of becoming in EDR, and the theme in itself requires cross-disciplinary study. The conceptual tools he has at hand come to him via two main sources: his background in philosophy and theology, acquired at the Madrid Seminary where he studied between 1915 and 1919, as well as his philosophy studies in Louvain and Rome; and his acquaintance as of 1919 with Ortega y Gasset,⁶ who unlocked to him contemporary Germanic philosophy and science.

I shall discuss in order [1.] Zubiri's debt to Scholasticism in EDR, [2.] contributions of Ortega to EDR, and [3.] the consequent Aristotelianism of EDR in nearly all its parts: Aristotle guides Zubiri in directions enabling him to correct the Stagirite with the latest philosophy and material science available to him so as to elaborate his own metaphysics of dynamism.

II. The Debt to Scholasticism in *Estructura dinámica de la realidad*

Not a Scholastic philosopher himself, Zubiri always displays a Scholastic's precision in handling concepts, an adaptation to his own doctrines of many metaphysical terms borrowed from Scholasticism, and an awareness of Scholastic philosophy from Thomas Aquinas through Francisco Suárez to Jacques Maritain.⁷ In early articles, Zubiri calls for a "new Scholastics,"

* ["In a definitive way, Aristotle has created for the rest of human history the idea of philosophy as an apodictic science. Perusing the pages of Plato's *Dialogues* is a magnificent experience; and next to them, one of Aristotle's tightly knit pages on *epísteme* is less brilliant and, at times, less rich in thoughts. But it is infinitely superior in its conceptual rigor."]

trying to bring about, with the problems and contemporary theoretical means at hand, a new synthesis similar to what the great Scholastic thinkers produced in the Middle Ages. “¿No es un ejercicio muy ‘tomista’ acercar a la ciencia los conceptos filosóficos, si no para probarlos rigurosamente por lo menos para ilustrarlos, y tal vez para precisarlos y corregirlos?”⁸ *.

The most attractive aspect of cognition for the early Zubiri amounts to sustained attention towards science. This attraction, reports Pintor-Ramos,⁹ defines the fundamental heritage of Louvain, a legacy received from Zubiri’s teacher Juan Zaragüeta in the Seminary of Madrid; for Zaragüeta had himself been formed in Louvain.

The point of intersection between traditional Scholasticism and the new science would be the quest for virtually infinitesimal precision. The most frequently recurring word in EDR is the adverb “precisamente.”[†] In this work, precision borrowed from Zubiri’s Aristotelian-Scholastic heritage unites with precision lent by secular contemporary philosophy and science. The proof lies in the most fundamental concepts of EDR: the in-its-own-right (“de suyo”) and the giving-of-oneself (“dar de sí). Although it would be an error of imprecision to make a one-to-one equation between Zubiri’s terms and any formulation drawn from the past, the term *de suyo* may well translate the Latin expressions *ex se et ex sua quidditate*, found, for instance, in Suárez, and rendered as “de suyo y...en virtud de su propia quiddidad”[‡] by his Spanish translators in a passage from the *Disputationes metaphysicae*, XV, sec. II, 10 (vol. II, 660) a passage not specifically identified in EDR, but pin-

pointed by me.¹⁰ In his “Presentación” to EDR, Diego Gracia defines the problem of this book as the relationship between the concepts *de suyo* and *dar de sí*, that is, between the “in-its-own-right” and the “giving of oneself.”¹¹ The “in-its-own-right” is the set of notes constituting a reality. The manifestation of those notes is the “giving of itself.” God the Creator endlessly gives of Himself, and the creatures, each to a differing degree, do the same. In EDR Zubiri explicitly draws the analogy between God and Creation, and thereby borrows from the Jesuit tradition.¹² The human person should be one who “finds [the self-giving] God in all things,” according to St. Ignatius of Loyola.

III. The Debt to Ortega in *Estructura dinámica de la realidad*

At the same time, *Sobre la esencia* informs us that Zubiri derives the concept of giving of oneself in part from Heidegger.¹³ As Zubiri interprets him, being gives itself in comprehension of being. The self-giving of being in comprehension signifies a being-there, being what one is. The fact of Heidegger’s impact on EDR offers an inductive cognitive key to the work. Zubiri has learned in the first place about the significance of Heidegger from Ortega y Gasset.¹⁴ Therefore, it stands to reason that Ortega introduces Zubiri to other German thinkers present in EDR, and that any information about Zubiri’s cognitive sources often starts with Ortega. Antonio Pintor-Ramos has remarked, “El magisterio intelectual de Ortega es la condición de posibilidad de la filosofía zubiriana”.¹⁵§ A concrete proof lies in the names of German-speaking philosophers and scientists whose ideas play a major rôle in EDR: besides Heidegger, his teacher Edmund Husserl, the biologists Hans Driesch and David Katz, the physicist Albert Einstein, and the founders of quantum mechanics Werner Heisenberg

* [“Is it not a very Thomistic exercise to bring philosophical concepts closer to science, in order to probe them rigorously, and at least illustrate them, if not indeed to make them more precise and perhaps to correct them?”]

† [“precisely” or “exactly” in English].

‡ [“in its own right and...in virtue of its own quiddity.”]

§ [“The intellectual magisterium of Ortega is what makes Zubiri’s philosophy possible.”]

and Erwin Schrödinger, among others, all come over the Pyrenees for the first time in the pages of Ortega's publishing concern, the *Revista de Occidente*.¹⁶ Contextualization of Zubiri's thought almost always needs to begin with Ortega.

Zubiri, I find, owes the structural depth of EDR largely to Husserl, whose doctrines not only Ortega but also the Augustinian P. M. Arnaiz first imported into Spain.¹⁷ We recall that between 1928 and 1930, Zubiri did postdoctoral studies with Husserl at Freiburg, and in the following two years resided in Berlin, where he either saw or met in person Einstein, Schrödinger, Heisenberg, and the mathematician Ernst Zermelo.¹⁸ All these encounters obviously weighed heavily on the pages of EDR. Zubiri recalls an inquiry he made of Heisenberg concerning the reversal of time posited of subatomic particles.¹⁹ Heisenberg left the question unclarified, and EDR continues to reflect Zubiri's perplexity.

The text leaves no room for doubt, though, of Zubiri's debt for the structure of EDR to the phenomenologist Edmund Husserl, one of the thinkers most respected by Ortega.²⁰ In essence, EDR consists of the phenomenological reduction of the phenomenon of becoming. First Zubiri suspends historical forejudgments about the phenomenon before rising to a self-evident truth about becoming. Then he subtracts from that truth everything pertinent to becoming while not essential to it. Finally, once in possession of its essence, he defines becoming before describing one by one its essential aspects. Part I of EDR proposes suspending three forejudgments inherited from ancient Greece: that the problem of becoming involves the problem of being; that the one undergoing the becoming is an underlying subject; and that becoming consists of change.²¹ Since Husserl recommends immediate contact with the evidence posed by problems, Zubiri makes a direct inspection of the Greek of the texts responsible for the old errors: Parmenides' poem *On Nature*, Plato's dialogue the *Soph-*

ist, and Aristotle's treatises the *Metaphysics* and the *Physics*. Parmenides finds becoming a union of being and non-being, but prohibits as groundless any statement on non-being.²² Plato sets aside his prohibition and concludes that something which is not being does exist in theory, and that that something is other-than-being.²³ Aristotle faults Plato for being too theoretical. He attributes becoming to an underlying being or subject which exists in the physical world. That subject undergoes change. Aristotle identifies becoming with changing.²⁴ Now, we know from *Sobre la esencia* that Zubiri does not subscribe to the notion of an underlying subject. In EDR, notwithstanding his recognition of Aristotle's brilliance in having coined the concept of δύναμις, potency, so useful for illuminating metaphysical dimensions of reality, he repeats that he finds no evidence for Aristotle's and so many others' identification of becoming with changing.²⁵ Nor can Zubiri agree with Aristotle that it is *being* that becomes. Instead, Zubiri is convinced that *reality* becomes.²⁶

IV. The Aristotelianism of *Estructura dinámica de la realidad*

His discrepancies from Aristotle on so many issues make it a mystery for the annotator of his works that Aristotle, of all philosophers, receives the most mentions by far in EDR, and not always by way of disagreement. The mystery deepens if we take Diego Gracia at his word in the "Presentation" of EDR that this work responds to critics regarding *Sobre la esencia* as too Aristotelian and not Hegelian enough, and here reverses this preference.²⁷ How to account, then, for the numerous references to the *Metaphysics* and the *Physics*, as well as to *On Generation and Corruption*, to *On the Soul*, and to the *Topics*? Unquestionably Aristotle is orienting Zubiri's thinking, setting the parameters for it, however much Zubiri may diverge from the Stagirite in particular cases. Zubiri would not know how to pro-

ceed in considering dynamism were it not for Aristotle. Zubiri shares Ortega's fascination with Aristotle's conception of δύναμις, potency, which he absorbs into his own metaphysics of becoming. Not being, but reality has an active moment consisting of giving of itself.²⁸ It "becomes" in a dynamic structure encompassing the whole world order, with every dynamism subtending a more specialized, more elevated one. Within this world order (Aristotelian τάξις, though in a different, more dynamic sense than Aristotle's), Hegel essentially affects only two higher dynamisms, the dynamism of history and the dynamism of society.²⁹ Therefore, it is incorrect to label EDR more Aristotelian than Hegelian. Certainly it is not, and its Aristotelianism brings it closer to *Sobre la esencia* than has been thought. Zubiri's handling of his intertexts can lead to no other conclusion.

A. Aristotelianism in Part I.

The two main parts of EDR clearly display this closeness. The first part, concerning the meaning of dynamic structure of reality, explicitly introduces Aristotle twice: first, in his treatment, surpassing Parmenides and Plato, of becoming as an ontological problem; and, second, in his examination of dynamism as change. Between these two parts, Aristotle is also present, serving as Zubiri's constant interlocutor. Hence, after considering Aristotle's critique of Parmenides and Plato, Zubiri sets out to refute the three basic Aristotelian assumptions that becoming is change, that becoming has an underlying subject, and that becoming is a problem of being. First Zubiri deals with the problem of being, relates being to reality, finds reality prior to being, and defines reality as an in-its-own-right ("de suyo"). Second, in treating the relationship between reality and structure, he counters Aristotle's conception of an underlying subject and substitutes substantivity. In doing so, Zubiri introduces the Aristotelian hylemorphism of the Spanish Scholastic philosopher

Francisco Suárez. However, a serious misprint in the Spanish of EDR undermines the authority of Zubiri's quote from Suárez; for an erroneous transcription of an old text nullifies its impact in a newer text. In the passage, Zubiri's original editors invent the presence of a word which does not actually appear in Suárez. The Spanish version of EDR says that for Suárez, the organism is organized and the form determines it *quocumque modo* (somehow), which, I submit, is an erratum. In the passage in question from Suárez' voluminous *Disputationes metaphysicae* (XV, sec. II, vol. II, p. 661), the expression *quocumque modo* is absent in this particular context, while the single word *quodammodo* (in a certain way) is repeated twice. Zubiri denies this mutual codetermination of form and organism as act and potency in order to clarify the codetermination of two perfect acts: two actual notes of a substantivity in which many notes codetermine each other.³⁰

The second reference to Aristotle in Part I of EDR has to do with the relationship between dynamism and change. Aristotle, according to Zubiri, takes becoming as change of the substance from non-being to being.³¹ However, Zubiri finds no evidence for substance comprising the components of the universe. After Aristotle, physics has found that objects constitute mere fragments of the universe.³² What exists, argues nineteenth-century physics, is fields, flowing continua—electromagnetic, ether, gravitation, etc.—. Yet here classical physicists err, in Zubiri's judgment. He cites from what he calls "la Física actual," and what I have documented to mean quantum mechanics. This development in physics problematizes field theory. For instance, in the 1920s it appears that the founders of quantum theory debated whether light is wave or particle, undulation or photons. Moreover, Einstein, in his famous equivalency equation $E = mc^2$, discovered the energy of mass and the mass of energy, throwing into doubt the concept of field,

that is, the process-like character of dynamism, its flow.³³ Instead, rejecting as unsubstantiated the notions of reality as a field and as a process, Zubiri insists on the idea of reality as a structure, a dynamic structure.

B. Aristotelianism in Part II.

The second part of his book, specifying some of the main dynamic structures of reality and their relationship to each other, also addresses Aristotle. The most basic dynamism of reality is causal dynamism, and Zubiri cannot proceed without making a severe critique of Aristotle's four causes.³⁴ This critique leads Zubiri to the treatment of causality in modern philosophy, especially in Kant, whose *Critique of Pure Reason*, everywhere mentioned in EDR, is the only work by Kant taken into account in Zubiri's course. Kant serves Zubiri because he absolutizes causality, converts it into a universal principle.³⁵ Zubiri defines causality as the functionality of the real *qua* real, where, as Thomas Fowler has shown,³⁶ functionality has the sense of serving as a mathematical function of something real insofar as it is real. This functionality implies dynamism; for causality by Zubiri's definition is comprehensible from the standpoint of something becoming real, like the sound of a bell, or else from the perspective of the cause, understood as the influence of the real *qua* real.³⁷ In considering the dynamism of variation, Zubiri also takes Aristotle's vision of ἀλλοίωσις, "alteration," into account.³⁸ Whereas Aristotle takes for his point of departure the movement of substances, Zubiri uses for his the respectivity of the universe, wherein substantivities display activity in themselves.³⁹ While inquiring into basic respectivity, Zubiri finds it necessary to take *place* as his point of departure. His examination of space leads him to abandon Aristotle's notion of place and to turn to topology, the branch of mathematics especially fashionable in the 1960s as he writes.⁴⁰ This insertion of topology

into the philosophy of space gives it unparalleled precision and range. For instance, the theorem of Nagata and Smirnov, appropriated by Zubiri, applies to all metrizable space, that is, to all space in which distance is definable.^{41,*} Moreover, Zubiri employs quantum mechanics to help him define the physical factors determining structures in space: light, gravitation, and action. From Einstein's equivalency theory, Zubiri learns that *c*, the speed of light, constitutes the highest velocity *in re*, in reality. From Einstein's general relativity theory, he finds that gravitation determines the curvature of space. Action refers to momentum, whose determinacy, applied to subatomic particles, remains a matter of debate among quantum theorists.⁴² In other words, a movement, a body left to itself in physical conditions—light, gravitation, and action—determines these structures of space.⁴³ Therefore Zubiri cannot accept as evident or obvious Aristotle's conception of movement as attribute of a substance.⁴⁴ Instead, he maintains that the structure of the universe is in and by itself constitutively dynamic, and therefore *changes* because it *becomes*, in other words, gives of itself.⁴⁵

Based on the dynamism of variation is what Zubiri calls the *dynamism of alteration*. One substantivity transforms into others. Again Zubiri clashes with Aristotle, this time in the *Physics*. The philosopher of Stagira speaks of substantial transformation,⁴⁶ while Zubiri finds the notion of substance problematic. Rather, he would substitute substantivity.⁴⁷ Zubiri offers two examples from the physics of his times: the transformation of matter to energy in accordance with Einstein's equiva-

* [The Nagata-Smirnov theorem gives the necessary and sufficient conditions for a topological space to be metrizable, that is, to have a metric or distance measure defined on it. A topological space is merely a collection of sets and subsets satisfying certain weak conditions, and may or may not be metrizable.—ed.]

lency theory, and the transformation of energy to matter and of matter to energy through collisions of subatomic particles. Here, transformation does not consist of the successive endowment of substances with substantial forms, but rather of one structure giving way, qua structure, to completely different structures.⁴⁸ Let us not forget that in Zubiri substantivities are dynamic structures.

What is more, Zubiri mentions in passing Viktor F. Weisskopf's contention that particles produced through cyclotronic collisions are really states of resonance of elementary particles.* Although Zubiri seems to dismiss Weisskopf's presence as irrelevant for his purposes,⁴⁹ the truth is that in the numerous cases that EDR mentions subatomic particles, Weisskopf's hypotheses underlie Zubiri's thinking. I would argue that Weisskopf offers a major key to a research tool for better understanding of Zubiri. The publication which apparently guides Zubiri's thinking on subatomic transformation is Weisskopf's "The Three Spectroscopies" (atomic, nuclear, and subnuclear), as examined in *Scientific American* in May of 1968. This article, published only six months before Zubiri begins offering his course EDR in public,⁵⁰ bears the caption under its title, "The exotic particles produced by the great accelerators can be regarded as a spectrum of excited states that decay to a few ground states".⁵¹ These "excited states" seem to refer to the "states of resonance" of elementary particles mentioned by Zubiri.⁵² Such states furnish a perfect example of substantivities transforming into others. Yet the Weisskopf lead gives

us more: in private conversations, Diego Gracia has mentioned to me Zubiri's assiduousness in consulting *Scientific American*. A useful piece of research on Zubiri would consist of a study of his total intellectual debt to authors publishing in that journal. Not only does Weisskopf provide Zubiri with an example of a causal dynamism as transformation, but he also gives him a model for a second type of causal dynamism mounted on transformation: the dynamism of repetition. In the transformation of structures, the interaction of structures may give of themselves the production of substantivities equal to the reagents. Through collision with other particles, protons can yield new elementary particles which decay at once into stabler forms like the protons themselves.⁵³

Still a third form of causal dynamism is generation, substantivized in Aristotle's writings. He thought that a substantial form was educed from a piece of prime matter. Instead, Zubiri finds that the constituting action of a new substantivity is dynamically elaborated through a "genetic determination".⁵⁴

When, in a genetic dynamism, interferences in the causal dynamism affect the dynamic structure of this order in the progenitors, structural changes take place by the name of mutations;⁵⁵ and when a substantivity shows the capacity to integrate a mutation into itself, evolution takes place. For instance, should the structure of a particular reptile display enough vitality to survive in the form of a bird, that reptile is said to evolve. Hence, Zubiri cannot agree with Neo-Scholastic thinkers like Jacques Maritain, not cited in this context, but clearly present between Zubiri's lines, because Maritain harks back to Aquinas to conceive evolution as the actualization of virtualities, "virtues" or essential properties residing in lower organisms to develop into higher ones.⁵⁶ Evolution represents for Zubiri the actuality of potentialities.⁵⁷ The configuration of universal realities has given of itself a new reality, and these configura-

* [This theory has since been abandoned in favor of other theories which divide particles into two classes: hadrons and leptons. The leptons are elementary, but the hadrons, such as protons and neutrons, are comprised of combinations of still smaller and not directly observable particles, the quarks. According to modern theories, the particles produced by accelerators are real, not resonance states.—ed.]

tions, far from being randomly sown through the cosmos, exist in a chain or, for Zubiri, a “rigorous cascade,” within which potentialities of evolving termini are becoming actualized. In this thinking, he continues to follow Aristotle, as much as he indicates the contrary. For he writes that evolution follows hierarchical positions among the multiple cosmic substantivities, and this is the Aristotelian τάξις or world order, except that for Aristotle, such an order stood as an assumption, not as a first result, of evolution.⁵⁸ The fact is that, contrary to what Zubiri maintains, biologists take a more complicated view, holding that the human species may not be a direct descendent of the sea-cucumber or echinoderm, but rather a branch from a related species, now extinct.⁵⁹

Zubiri’s views on the evolution of life, abbreviated in EDR, also show the impact of Aristotle. Every dynamism, as analyzed by Zubiri, has three strata, and Aristotle’s thinking is present in the description of each: the *in-its-own-right*, by virtue of which a dynamism is real; the *self*, by virtue of which this reality is active by itself; and the *giving of itself*. We have already traced the *in-its-own-right* to the Neo-Scholastic Suárez, acknowledged heir to Aristotle. The self, Zubiri admits, stems from Aristotle, whose *De anima*, Bk. II, ch. 4, (415b13), equates life to its being. Zubiri finds this conception insufficient since it substantivizes life, presenting it as something happening to a subject, the living being or underlying substance.⁶⁰ Nor does he accept Aristotle’s idea of life as self-movement.⁶¹ Aristotle would say, according to Zubiri,⁶² that being alive consists of being a substance whose form is vitality. However, Zubiri finds Aristotelian hylemorphism problematic, even if Neo-Scholastics like Maritain think it too easy to prove.⁶³ Embryonic experiments performed by Driesch and his circle, and of the embryologist Spemann, Zubiri’s teacher in Freiburg, show that embryonic organizers perform their organizing function better when dead.⁶⁴ If, then, hylemor-

hylemorphism, the conception of life as the combination of form and substance, will not work, what, asks Zubiri, defines the structure of a living being?⁶⁵ Life consists of being the self and possessing oneself.⁶⁶ However, he understands by being the self not what Aristotle does, but being the self in-its-own-right, through the structure of its notes as they give of themselves.⁶⁷ This giving of oneself, thinks Zubiri,⁶⁸ varies by degrees through the biological scale, with the mode of self-possession becoming richer with the ascent of the living being in the scale.

The highest mode of self-possession belongs to the human being, and Zubiri devotes a chapter (IX) to the dynamism of self-possession. He finds the entrance of intelligence in the zoological scale an innovation resulting from a distinct causation. When inquiring on the part of what that innovation takes place, Zubiri offers an Aristotelian answer: the All.⁶⁹ Now, in the *Metaphysics*, I, 2, (982b17), there appears a reference to one of the great cosmic problems, the origin of the universe, or in Aristotle’s Greek, the genesis of the All, ἡ τοῦ πάντος γένεσις. Reverse the passivity of the universe being generated so that it becomes the generator of all reality, and what results is very close to the age-old notion of *natura naturans*, nature producing out of itself.

Zubiri revives these old concepts with reservations. The system of respectivity or referentiality constituting the world and the cosmos is the only system endowed with causality. “Podría llamarse *natura naturans*, o Todo, pero siempre que se hicieran graves correcciones.”* First, Zubiri denies that the All denotes a subject of universal phenomena.⁷⁰ To hold otherwise would mean to substantivize the universe, as the pantheist Spinoza seems to do. Second, he negates the existence of a root, or natural reality, from which those phenomena emerge. This

* “One might call it *natura naturans*, or the All, but only provided that important modifications are made.”

would be a throwback to the ancient Greek naturalists' vision of Nature or Φύσις, an idea carried over into the Medieval Latin of *natura naturans*. Instead, Zubiri refers to a structure, active by and for itself, and encompassing all partial structures in the universe. With reference to each of the structures, the activity of the All, by virtue of its respectivity, its referentiality to the totality, is the functional determination of each of the substantive reality making up the world. This determination of the real within the activity of the All comprises what Zubiri means by causality.⁷¹ It is the only concession that Zubiri makes to Aristotle's idea of causation as being a principle immanent to whatever becomes and is caused.⁷²

Zubiri inquires into the kind of causality the All has in order to produce the human being in the universe, especially its intelligence. He responds that it is a causality continuing animal evolution, demanding hyperformalization. This hyperformalization, reflected in cerebral anatomy, would achieve no stability without innovating with intelligence.⁷³ Once again, Aristotle has handed Zubiri a roadmap, and once again Zubiri, with the doctrinal goal in sight, chooses his own route toward it in view of contemporary science.

Such Aristotelianism *ma non troppo* also appears in Zubiri's reflections on time. He apparently follows Aristotle in discerning its continuity and limits, its structural dimensions, its ordering, and its essence. In dealing with time in antiquity, Zubiri quotes the critique in Aristotle's *Physics* IV, 10, (218a1-2), of the Persian conception of time (although the Greek text makes no explicit reference to the Persians). Time of long duration, translates Aristotle, lies within infinite time. This long-lasting time, according to the text of EDR,⁷⁴ extends for the Persians to a cycle of 6,000 years; however, other texts of Zubiri on the same theme affirm that the extension of long-lasting time is a cycle of 12,000 years.⁷⁵ Hence we must

infer a misprint of the many in EDR. Zubiri offers a partial critique both of the Persians and of Aristotle on time. He writes that the Persians, Aristotle, and the Semites pose the problem of the dimensions of the time, the structure of temporal duration: linear or cyclical?⁷⁶ A second problem arises, that of ordering: past, present, and future, or before and after, or an order of parts. Aristotle also holds his own conception of this ordering. Zubiri himself cites in Greek Aristotle's well-known definition of time from the *Physics* IV, 11, (219b2), literally translated by Wicksteed and Cornford as follows: time is the "calculable measure or dimension of motion with respect to before-and-afterness."⁷⁷ The "calculable measure" translates the Greek ἀριθμός, which we recognize as the etymon of arithmetic. Hence Zubiri deduces that time is a quantity—two seconds, three hours, a year—.⁷⁸ Time paves the way for chronometry.

Aristotle figures not only in Zubiri's description of time, but also in his reflection on its essence. He writes that for Aristotle, the only reality is the now, the νῦν, since the past and the future are non-existent.⁷⁹ Zubiri condenses Aristotle's definition of time into the "intrinsic mutability of the now".⁸⁰ Aristotle's own words are that we speak of time as a distinct before and after.⁸¹ Zubiri equates Aristotelian time, therefore, to a "now" which flows. However, he himself somewhat diverges. Needing to anchor the conception of time in his metaphysics of self-giving reality, he conceives time as a being-in-the-world giving of itself ("un estar . . . en el mundo, dando de sí"),* or, in shorter terms, of a being-there giving of oneself.⁸² Time, the actuality of all things, defines what Zubiri perceives as being. Transcribing Aristotelian flow to grammar, Zubiri views time as "not flow, but gerundive being".⁸³ Just as Ortega perceived life, the radical reality, as "un gerundio y no un participio: un faciendum y no un

* "a being here-and-now...in the world, giving of oneself."

factum”,^{84*} so Zubiri refuses to substantivize time by presenting it as progressive, self-unfolding being. Instead, time constitutes for him a structural moment of reality.⁸⁵ As a structural moment, however, time holds for Zubiri a certain “changing stability in being.” The essence of time lies in its “always,” its always passing, its always approaching (futurity), and its always moving in the present.⁸⁶ The implicit Aristotelianism of this conception is patent: in the *Physics*, Aristotle holds that perception of a distinct before and after denotes time, or the dimension of motion as regards before and after.⁸⁷ At any instant, holds Aristotle,⁸⁸ time stays everywhere the same. The “now” is identical in essence, ever dividing past from future, while the relationships in which it partakes endlessly differ.

Indeed, if we wished to summarize Zubiri’s treatment of Aristotle in EDR, we could call the work the dynamization of the Stagirite. We have noted that, affected by Ortega, he makes a gerund out of Aristotle’s vision of time as mutable presence, while otherwise accepting Aristotle’s dynamic conception of time as dimensionality, continuity, limitedness, and quantifiability. He transforms Aristotle’s view of the All by de-substantiating it. In reflecting on universal evolution, he takes from Aristotle the notion that intelligence has a sensible component, and this idea will eventually lead Zubiri to his own theory of sentient intelligence. At the beginning of the *Metaphysics*, according to Zubiri,⁸⁹ Aristotle holds that man shares with the animal a rudimentary desire for knowledge, engrained in feeling itself (Aristotelian *aisthesis*). The mere fact of feeling is in fact receiving the showing of something. Some animals can retain what they have felt. A perception acquires firmness. A second percept gets added to the first in a particular order. This order, organized by memory, is what Aristotle calls “experience”. The more experience

an animal has—that is, the better its mnemonic organization—the more intelligence it enjoys.⁹⁰ We have already seen that Zubiri’s reflections on intelligence-producing hyperformalization have stemmed from de-substantiating and reasoning Aristotle further on the theme of causality: he has inquired as to what kind of causality the All has in order to produce the human being in the universe, especially its intelligence.

How far does Zubiri really stray from Aristotle when maintaining in EDR that progress in evolution consists of advancing formalization, the creation of formal schemes constituting independence of things, of actions with respect to the milieu, and of aspects of vital tone within a living being?⁹¹ Zubiri offers the biologist David Katz’ example of the crab hunting its prey on a rock while unable to grasp it suspended from a stick and a string; for the crab has previously formalized the Gestalt “rock-prey”.⁹² Likewise, the human animal, hyperformalized, to employ Zubiri’s lexicon, innovates in the universe by taking reality as such into consideration. The innovation of taking cognizance of the real makes the human being by definition “open essence,” open to the reality of objects.⁹³

Conclusion

In reality, the contributions of other thinkers to EDR seems to hinge upon its Aristotelianism. Husserlian phenomenological reduction, applied to the problem of becoming, must set aside three Aristotelian forejudgments, (1.) that the problem of becoming involves the problem of being; (2.) that the one undergoing the becoming is an underlying subject; and (3.) that becoming consists of change. Zubiri responds that reality, not being, becomes; that the reality which is becoming is a structure; and that the becoming involves a dynamism, but not necessarily a change. Zubiri discovers and describes dynamisms in all cosmic structures, from the most elementary and universal to the

* “a gerund and not a participle, a to-be-done and not an already-done.”

most formalized and differentiated. In addressing all universal being, Zubiri imitates Aristotle in spanning the main forms of cognition of his times. Yet the vast panorama of contemporary philosophy and the sciences, learned by Zubiri through Ortega's impact, makes Zubiri's exposition necessarily more compact than Aristotle's and more comprehensive. Such comprehensiveness, stretching his editors' mind to unusual breadths of vision, accounts for the major errata of the

first edition of EDR. Comparison of Zubiri with his cognitive intertexts enables us to correct the flawed transcription of his 1968 course as well as to deepen our perception of his philosophical evolution from *Sobre la esencia* to the trilogy *Inteligencia sentiente*. Suddenly, basic concepts like the "in-its-own-right" and "giving of one-self" acquire new clarity when placed in relation to their probable sources, shedding unprecedented light on the whole of Zubiri's production.

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Notes

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- ⁵ EDR, p. 327.
- ⁶ Pintor-Ramos, Antonio. *Génesis y formación de la filosofía de Zubiri*, 2nd. rev. ed. Salamanca: Universidad Pontificia, 1983, p. 9.
- ⁷ Cf. EDR, p. 208, 33, 190.
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- ¹¹ Gracia, Guillén Diego, "Presentación" to EDR, p. v.
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- ²¹ EDR, p. 20-21.
- ²² EDR, p. 13.
- ²³ EDR, p. 15.
- ²⁴ EDR, p. 16.
- ²⁵ EDR, p. 17-19.
- ²⁶ EDR, p. 27.
- ²⁷ Gracia, Guillén Diego, "Presentación" to EDR, *op. cit.*, p. iii, v.
- ²⁸ EDR, p. 61.
- ²⁹ EDR, p. 266-267, 271, 273.
- ³⁰ EDR, p. 33.
- ³¹ EDR, p. 49.
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- 56 EDR, p. 146-147; cfr. 160.
- 57 EDR, p. 148.
- 58 EDR, p. 152.
- 59 Cf. EDR 212; Campbell 634.
- 60 EDR, p. 189.
- 61 EDR, p. 189.
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