

The Imperative of Co-existence: On Technique in Georges Bataille's Social Theory

Tomás Ramos Mejía

Abstract

In this article I examine the problem of technique in Georges Bataille's social ontology by means of a counterpoint with Bernard Stiegler's philosophy. I will defend the following theses: 1) although Bataille, at first sight, seems to pose an opposition between the technical and the social, for him, as for Stiegler, both are co-constituted in the bodily projection. This movement of externalisation is the continuation of life not by biological but by technical means, and the production of social existence by the useless dissipation of energy-matter; 2) both Bataille and Stiegler conceive society as an affective-cognitive circuit illustrated in a spiral movement composed of spirals, i.e. psychic individuals and artificial organs. I affirm therefore that Bataillean social ontology can be considered a key antecedent of Bernard Stiegler's philosophy of technique.

Keywords: Stiegler, Bataille, Technique, Expenditure, Vortex.

Introduction

Georges Bataille had great importance in contemporary philosophy and humanities in general and his texts have given rise to countless studies on different aspects of his intellectual trajectory. In this article I attempt to address a little-studied dimension of his work, perhaps because it was not directly addressed by the author and, above all, because it becomes visible and legible from later developments. I am referring to the question of technique and, within this, to the French tradition, whose reconstruction and consolidation are recent developments. Although there are relevant authors in this field of study, some of them essential, it is only in the last few decades that institutions have been created and interest has arisen in reconstructing the history of the philosophy of technique in France.¹ In this paper I aim to contribute to the history by examining the notion of technique in the social theory proposed by Georges Bataille.² Considering that Bataille does not address the question of technique explicitly and systematically, I will attempt to make that contribution by developing a counterpoint between his conceptualisation of the social and Bernard Stiegler's philosophy of technique in order to show how certain ideas of Bataille anticipate a number of Stiegler's concepts.

I will defend the following theses: 1) although Bataille, at first sight, poses an opposition between the technical and the social, for him, as for Stiegler, both are co-constituted in the bodily projection as the key gesture for technique and the social. This movement of externalisation is the continuation of life not by biological but by technical means, composing the domain of the useful, and the production of social existence by the useless dissipation of matter-energy, that make up the expenditure realm, by which subjects experience co-existence³; 2) the Bataillean perspective on the social bears important similarities to the Stieglerian concept of neganthropy and its figuration in the *idiotext* inasmuch as both conceive society as an affective-cognitive circuit illustrated

¹ See Sacha Loeve, Xavier Guchet, and Bernadette Bensaude Vincent, "Is There a French Philosophy of Technology? General Introduction," in *French Philosophy of Technology*, ed. Sacha Loeve, Xavier Guchet and Bernardette Bensaude Vincent (Springer, 2018).

² There are important texts on Georges Bataille's social theory; mention should be made to the following works: Benjamin Noys, *Georges Bataille* (London: Pluto Press, 2000); Patrick ffrench, *After Bataille: Sacrifice, Exposure, Community* (London: Routledge, 2007); Cédric Mong-Hy, "Le monde et Bataille: Études textuelles, contextuelles et prospectives" (Ph.D. Thesis, Université de la Reunion, 2016); Nidesh Lawtoo, "Bataille and the Birth of the Subject", *Angelaki* 16, no. 2 (2011); Tiina Arppe, *Affectivity and the Social Bond Transcendence, Economy and Violence in French Social Theory* (London: Routledge, 2014); William Pawlett, *Georges Bataille: The Sacred and Society* (London: Routledge, 2015); and Sandro Pellarin, "Il Soggetto al limite: Georges Bataille e le scienze social" (Doctoral thesis, Università degli Studi di Padov, 2017). In these texts, the question of technique is either not addressed or remains of secondary importance.

³ Let us make it clear from the outset that we find in Bataille indications rather than a systematic conceptual elaboration of this co-constitution, as we find it in Stiegler.

in a spiral movement composed of spirals, i.e. psychic individuals and artificial organs. Thus, Bataillean social ontology can be seen as a relevant predecessor of the Stieglerian philosophy of technique.

The Co-constitution of Technique and the Social

Stiegler develops a theory on technique inscribed in a tradition whose origin is, according to specialists, in Ernst Kapp and continues in France both with Alferd Espinas and, later, André Leroi-Gourhan. The latter is a key reference in Stiegler's work, for which technique is an anthropological feature and hominisation factor that consists in the projection of motor actions and mental contents through the organisation of inorganic matter, promoting the continuation of life by means other than life.⁴ Stiegler calls this projection *exosomatisation*, a process that unfolds through *grammatisation*, that is, by the discretization and spatialisation of cognitive-affective flows. Exosomatisation leads to the emergence of tertiary retentions. Primary retentions refer to the perception of the present and secondary retentions to the representation of the past time through imagination; tertiary retentions, in turn, are artificial and technical retentions. These three types of retentions are articulated with each other: primary retention involves a selection process whose criteria are in secondary retentions, and the dynamic between primary and secondary retentions is controlled by tertiary retention.⁵

Although they were not originally conceived for this purpose, stone tools, for example, kept the traces of past gestures and work as "spontaneous support for memory."⁶ As "mental intermediaries [...] technical objects support and revive social sharing"⁷ in the sense of a co-experience that allows inter- and trans-generational transmission. Tertiary retentions, which are by definition collective because they are externalised and spatialised, support the transmission of collective secondary retentions that serve as the basis for collective secondary protentions, the desiring projection towards a common horizon of shared dreams and objectives. In other words, technique and the social are co-constituted because, on the one hand, technical externalisation gives rise to tertiary retentions without which there can be no shared cognitive and affective circuits and, on the other hand, because without these circuits technique cannot be transmitted.

⁴ Bernard Stiegler, *The Neganthropocene*, trans. and ed. Daniel Ross (London: Open Humanities Press, 2018), 42.

⁵ Bernard Stiegler, *Dans la disruption: Comment ne pas devenir fou* (Paris: Les liens qui libèrent, 2016), 313.

⁶ Bernard Stiegler, "Anamnesis et Hiponmneses," in *Technicity*, ed. Louis Armand and Arthur Bradley (Prague: Litteraria Pragensia, 2006), 15, https://arsindustrialis.org/anamnesis-and-hypomnesis.

⁷ Stiegler, The Neganthropocene, 87.

However, the articulation between the technical and the social is traversed by a structural tension resulting from the pharmacological character of the technique. For Stiegler, technical objects carry an ambiguity according to which they are, at the same time, a cure and a poison. Thus, writing, for example, is "a *pharmakon* that both aids and harms memory (that is, the ability to think for oneself)."⁸ In other words, writing allows the preservation and deployment of new possibilities for memory while removing them from subjects. Not just writing, but all technical objects increase human possibilities and, simultaneously, weaken him/her since it drains his/her capabilities into objects. The toxic dimension of the technique erodes the social sharing because it interrupts the possibility of interand transgenerational transmission and interiorization of knowledge concretised in organological organs without which there are no common cognitive and affective circuits.

That is why the technique requires socio-therapeutics that prescribes mutual obligations, embodied in magic, religion, and politics. These prescriptions regulate the two organisational functions that ensure social cohesion: education and economy. The economy brings cohesion through the exchange of organological organs and education by the transmission of accumulated experience which guarantees arrangements organological organs with psycho-somatic bodies. Thus, the articulation between bodies and artificial organs through social organs constitutes what Stiegler calls *corp social.*⁹

As Howells explains, for Stiegler human existence is defined by the absence of intrinsic qualities, by a structural lack. This "défaut d'origine" drives humanity to seek fulfilment in its relations with the external world, including with other subjects.¹⁰ Stiegler uses Winnicott's concept of transitional¹¹ object to explain the insertion of subjects in the social space: it "is only through the mediation of the transitional object that the psychic individual can be inscribed and formed in and through the symbolic."¹² These objects create an *avant-coup* interiority that is always failed and open; this "primordial default of interiority" is the condition of possibility for the insertion in a transitional space, the space of "co-individuation,"¹³ which is the space of human experience as co-existence.

Daniel Ross, "Introduction," in *The Neganthropocene* (London: Open Humanities Press, 2018), 20.
 Stiegler, *The Neganthropocene*, 34, 133, 207–208.

¹⁰ Christina Howells, "'Le Défaut d'origine': The Prosthetic Constitution of Love and Desire," in *Stiegler and Technics*, ed. Christina Howells and Gerald Moore (Edinburgh: Edinburgh University Press: 2013): 145–146.

¹¹ These are objects of attachment for babies between four and twelve months. They are transitional because, according to Winnicott, they are in the transition between the immediate relationship with the mother and object-relationships, i.e. the full recognition of a reality external to the subject. See Jean Laplanche and Jean-Bertrand Pontalis, *The Language of Psychoanalysis*, trans. Donald Nicholson-Smith (London: Karnac Books, 1988): 464–465.

¹² Stiegler, The Neganthropocene, 70.

¹³ Bernard Stiegler, "Pharmacology of Spirit: And That Which Makes Life Worth Living," in *Theory After Theory*, ed. Jane Elliot and Derek Attridge (London and New York: Routledge, 2011), 297.

According to Stiegler, this constitutive exteriority that is the transitional object:

constitutes the infantile stage of the *pharmacology of spirit*, the matrix through which transitional space is formed in transductive relation to the 'good mother', that is, the provider of care. This relation of care constituted by the transitional object, that is, by the first *pharmakon*, forms the basis of what becomes, as transitional space, an intermediate area of experience where objects of culture, of the arts, of religion and of science are formed.¹⁴

The transitional object is the primordial materialisation of the affective instance exercised by those in charge of child's care in an organological organ. By means of attachment to this object, the psycho-somatic individuals are inscribed in the cognitive and affective circuits which constitute the social, that Stiegler also calls "spirals."¹⁵

For Stiegler, transitional object experience involves a movement of ecstatic projection, insofar as the experience of the social always includes being outside oneself: "Transitional adoption [...] is an experience of desire, that is, of a 'proper' and a self (or ego) which always already projects itself outside itself, beyond the self and into that which is never absolutely one's own because it is, precisely, one's other."16 The ecstatic dimension of transitional adoption implies the danger of disindividuation, present in the experience of the social in general, which is an ex-sistence always mediated by the organological organs. However, transitional adoption also has a curative dimension: it enables an appropriation that provides certain autonomy "that is not what opposes heteronomy, but that which adopts it as a necessary default (un défaut qu'il faut)."¹⁷ This "relational autonomy [...] is what composes with heteronomy; it is what plays creatively with transitional space."¹⁸ As transitional objects, technical objects articulate autonomy and ecstatic projection, and demand care for the transitional space, which is none other than the space of the social.¹⁹ As Daniel Ross explains, the third phase of Stiegler's philosophical trajectory, after the technical and the pharmacological, consists in the insertion of the pharmakon logic in the framework of the relations between entropy and anti-entropy.²⁰ Entropy is the universal law according to which all physical system are subject to a constant and irreversible

¹⁴ Stiegler, "Pharmacology of Spirit," 296-297.

¹⁵ Stiegler, The Neganthropocene, 257.

¹⁶ Stiegler, The Neganthropocene, 305.

¹⁷ Stiegler, The Neganthropocene, 297.

¹⁸ Stiegler, The Neganthropocene, 302.

¹⁹ For a detailed study of Stiegler's use of Winnicott's transitional object, see Tania Espinoza, "The Technical Object of Psychoanalysis,' in *Stiegler and Technics*, 151–164.

²⁰ See Daniel Ross, "Introduction," in *The Neganthropocene* (London: Open Humanities Press, 2018), 23-24.

process of loss or dissipation of matter-energy, which means that they tend towards their indifferentiation. In this framework, the question of life is that of the capacity of certain physical systems to postpone entropy, that is, to postpone what for living beings is death. During the 20th century, Schrödinger coined the concept of anti-entropy or negentropy to characterise these living beings. Anti-entropy is always local and temporary and is produced by means of an external source of energy, which, on earth, is always ultimately the sun. Stiegler takes these concepts to explain that life is the (re)production of a local specificity through the sustaining of its boundaries by means of what he calls endosomatic organogenesis, increasing always general entropy of the environment.²¹

For Stiegler, human existence is not just negentropic, but also includes a specific form of anti-entropy related with its technical condition, called neganthropy. To elaborate this concept, Stiegler starts from a critique of Lévi-Strauss' *Tristes Tropiques*. As Stiegler explains, towards the end of this book Lévi-Strauss asserts that human societies have an entropic essence that leads to the destruction of ethnic-cultural singularities, opposed to nature negentropic essence. This nihilistic position would result, from the "repression of organology" and the "ignoring of *neganthropologcial* question."²² Thus, in opposition to Levi-Strauss's entropology, Stiegler builds the concept of neganthropy, defined as follows:

Organic life is that which defers that entropy described by Clausius on the basis of the works of Sadi Carnot, and in relation to which Schrödinger showed that every form of life is the local formation of a counter-tendency, which he called negative entropy. Exosomatization is the continuation of this process, but in a new sense, producing an *increase of entropy and of what results from it, disorder, but also a new form of negentropy*, which I call 'neganthropy', that is, the production of those *new forms of locality* that are, precisely, exoorganisms.²³

Exosomatization can lead to production of neganthropy as a "hyperbolic negentropy" accelerating both entropic and anthropic becoming and, at the same time, enabling bifurcations that "differs and defers this becoming."²⁴ In other words, neganthropy delays "the toxicity of the pharmacological condition in a way that organises and orders locality, in universal becoming, but against the current."²⁵ The neganthropic counter-current is often described by Stiegler as "bifurcation," in the sense of a cut that draws a new difference in becoming, different of the vital difference, that gives rise to "local integrities

²¹ See Stiegler, Dans la disruption, 54 and Stiegler, The Neganthropocene, 57, 133, 199.

²² Stiegler, The Neganthropocene, 60.

²³ Stiegler, The Neganthropocene, 127-128.

²⁴ Stiegler, The Neganthropocene, 58.

²⁵ Stiegler, The Neganthropocene, 31.

of open exosomatic units," supported by "circuit configurations that form through these detours, like turns and spirals."²⁶ This "dynamic loop" conformed by simple and complex exoorganisms and cognitive-affective circuits attached to them are, nevertheless, always traversed by entropic and anthropic forces, elements of disorder that may be the origin of new orders.

In the framework of Stieglerian neganthropology, equivalent to organisms' boundaries are the borders produced by the social imperatives that bind social atoms, groups and artificial organs, resulting in organic and organological solidarity. The neganthropological bifurcation is that of a singular psycho-social consistency that allows the experience of the extra-ordinary (magical, mystical, religious, or spiritual experiences) insofar as it goes beyond just subsistence (beyond negentropy).²⁷ In this conceptual context, Stiegler resorts to Bataille's notion of expenditure, a key concept of his general economy, as a human practice that "sacralizes and sanctifies a default of being" opening the possibility to develop

the knowledge and power to create bifurcations within entropy. All noetic bifurcation [...] derives from a cosmic *potlatch* that indeed destroys very large quantities of differences and orders, but it does so by projecting a very great difference on another plane, constituting another 'order of magnitude' against the disorder of a *kosmos* in becoming, a *kosmos* that, without this projection of a yet-to-come from the unknown, would be reduced to a universe without singularity.²⁸

In other words, through sacrifice of force-matter, i.e. expenditure that is not intended for the reproduction of life, societies realise and maintain their neganthropy, considered an order of magnitude by which psychic individuals elevate themselves above subsistence. In the next sections we will examine Bataille's social theory for the purpose of showing in more detail how the notion of expenditure and other of its constituent elements are relevant precedents for Stieglerian neganthropology.

Bataille's Energetics

In order to understand Bataille's perspective on life, it is necessary first to synthesise what I consider to be his general ontology. Despite being characterised in various and indirect ways, I consider that Bataille is always pointing to the same idea. In his youth, being is defined as the universal movement of force-matter named *heterogeneous* being

²⁶ Stiegler, The Neganthropocene, 57.

²⁷ See Stiegler, Dans la disruption, 55, 320, 335 and Stiegler, The Neganthropocene, 133.

²⁸ Stiegler, The Neganthropocene, 60.

not a heterogeneity with respect to something else, given that, as "completely other [tout autre],"²⁹ is a "nonlogical difference"³⁰ that is always "incommensurate."³¹ In the mature stage of his career, being is defined as "movement of violence" entailing always "disorder"³² or "chaos."³³ In brief, being for Bataille is process of absolute differentiation and, as such, it is not the difference of negentropic or neganthropic bifurcations of which Stiegler speaks insofar as these suppose a border or limit with respect to otherness. Being is, instead, the entropic universal movement, what for Stiegler is becoming.

This undifferentiated difference is distinguished from the specified differentiation of cosmic, biospheric, and human beings, which Bataille could have called differentiated differences. There is interpenetration between these two differences because, for Bataille, every differentiated being is open and unfinished. Bataille states, for example, "where knowledge has searched for being it has found it unfinished [inacheve]"34 or "a being that isn't cracked isn't possible,"35 and, finally, "everything real fractures and cracks."36 Starting from the ontology of pure difference and under the premise of the unfinishedness of differentiated differences, Bataille gradually developed a theory of the biosphere to which Vladimir Vernadsky is fundamental. Well-known also by Stiegler, in The Biosphere the Russian geologist elaborated the concept of biosphere as the Earth's epidermis made up of organisms that compete and appropriate the available energy, whose ultimate source is the sun. Organisms transform solar energy into chemical energy, multiply and spread over the earth's surface. Vernadsky's image of the biosphere is that of the omnipresent and constantly expanding movement of life on the earth's surface³⁷ which seduced Bataille. Relying on Vernadsky, in a short article entitled "Corps célestes," published in 1940, he asserts: "a star like the Sun [...] projects unceasingly, in the form of light and heat, a part of its substance through space" 38 and:

the particles which, in the surface of the Earth, manage [parviennent]

²⁹ Georges Bataille, "The Use Value of D. A. F. de Sade," in *Visions of Excess: Selected Writings*, 1927-1939, trans. and ed. Allan Stoekl (Minneapolis: University of Minnesota Press, 1984), 102.

³⁰ Georges Bataille, "The Notion of Expenditure," in *Visions of Excess: Selected Writings*, 1927-1939, trans. and ed. Allan Stoekl (Minneapolis: University of Minnesota Press, 1984), 129.

³¹ Georges Bataille, "The Psychological Structure of Fascism," in *Visions of Excess. Selected Writings*, 1927-1939, trans. and ed. by Allan Stoekl (Minneapolis: University of Minnesota Press, 1984), 143.

³² Georges Bataille, Erotism: Death and Sensuality (New York: City Lights Books: 1986), 47.

³³ Bataille, Erotism, 119.

³⁴ Georges Bataille, *Guilty* trans. Bruce Boone, (Califorina: The Lapis Press 1988), 23.

³⁵ Bataille, Guilty, 23.

³⁶ Bataille, *Guilty*, 27.

³⁷ Vladimir Vernadsky, *The Biosphere*, trans. David B. Langmuir, (New York: Springer, 1998), 44, 59-60, 71.

³⁸ Georges Bataille, "Corps célestes," in *Œuvres complètes, Tome I* (París, Gallimard 1970), 518, my translation.

to [...] agglomerate to form ever higher powers [...], are devourers of force. Everything that condenses and moves [s'anime] on the ground that supports us is thus affected [frappe] by greed [avidite]. And every composite particle is not only avid for infinitely available solar energy or free terrestrial energy, but is avid for the energy accumulated in other particles.³⁹

The sun, the ultimate source of energy, dispersed over the earth in multiple forms, allows organisms to subsist by delaying the entropic indifferentiation (death) through greedy capture. However, these organisms, like any physical system, are subject to the law of entropy according to which it is impossible to entirely use the captured energy and therefore part of that energy is irreversibly lost:

A potent existence that has reached the highest degree of growth attends to a point of imbalance and spends [*dépense*] suddenly with prodigality: it explosively loses the excess [*surcroît*] that it accumulated with effort [*avec peine*]. The sum of the energy that escapes grasping, if it is far from insignificant [*négligeable*], is relatively weak, but no longer belongs to the world of the useful; the useful even then becomes subordinated and becomes a slave to the loss.⁴⁰

Similarly, in *The Accursed Share* Bataille states that "solar radiation has the effect of the superabundance of energy on the surface of the globe,"⁴¹ and further on he adds: "I insist on the fact that there is generally no growth but only a luxurious squandering of energy in every form! The history of life on earth is mainly the effect of a wild exuberance; the dominant event is the development of luxury, the production of increasingly burdensome forms of life."⁴² For Bataille, part of the surplus energy can be used not just for subsistence, but for growth and reproduction, and in that sense it is useful. However, from the outset, part of it is *absolute excess* giving raise to "a pure and simple loss, *which occurs in any case.*"⁴³ On one side, organisms struggle each other for the temporary capture of matter-energy to negentropically deviate from the movement of becoming and, on the other, the entropic forces pushes them to dilapidate part of it and which will ultimately lead to death.

³⁹ Bataille, "Corps célestes," 518.

⁴⁰ Bataille, "Corps célestes," 519.

^{Georges Bataille,} *The Accursed Share: An Essay on General Economy* (New York: Zone Books, 1988),
29.

⁴² Bataille, The Accursed Share, 39.

⁴³ Bataille, The Accursed Share, 31.

As can be read, like Stiegler, Bataille conceives life in terms of a relationship between negentropic capture and entropic loss. Also like Stiegler, as we will see, Bataille attempts to conceptualise human inscription within this dynamic, in his case by giving useless expenditure the place of the foundation of human (social) ex-sistence. To demonstrate how he conducts this operation, in the next section I will examine the notion of the *imperative of exclusion*.

The Imperative of Exclusion

This concept is the result of Bataille's singular reading of the Maussian concept of gift from the point of view of psychoanalytic theory. I will begin by describing the Maussian theory of the gift, presented in *The Gift*, published first in *L'année sociologique* in 1924. Based on a large collection of ethnographic evidence, in this text Mauss affirms that societies are constituted on the basis of gifts, defined as the exchange between persons, groups, and societies of goods and services as a result of the articulation of three obligations: give, receive, and return. Societies, their groups, and their subjects are thus tied, intermingled, without total fusion or indifferentiation; indeed, the gift conjugates differentiation, opposition, and cohesive bonding in a way that there is not one without the other. Following Bruno Karsenti, this means that the gift (re)produces social bonds and society as a totality, a composite and therefore complex whole traversed by agonistic and frictional interpenetration of subjects and subgroups.⁴⁴

The gift is the "bedrock"⁴⁵ of the social and a *total social fact*, defined as those "that involve the totality of society and its institutions,"⁴⁶ including religious, juridical, moral, economic, and aesthetic. The gift is a socio-therapeutics in Stiegler's terms: a set of reciprocal obligations, embedded within religious beliefs, magical beliefs, and moral imperatives that create social cohesion through the exchange of exosomatic organs—although Stiegler relies here more specifically on Durkheim's *The Division of Social Labour*.⁴⁷

Bataille emphasises two interrelated aspects of the gift in order to elaborate the notion of imperative of exclusion. These, moreover, can be connected with the Stieglerian perspective on technique. Firstly, Mauss claims that the gift pushes us "out of ourselves"⁴⁸

⁴⁴ See Bruno Karsenti, L'homme total: Sociologie, anthropologie et philosophie chez Marcel Mauss (Paris: PUF, 2011).

⁴⁵ Marcel Mauss, The Gift: The Form and Reason for Exchange in Archaic Societies, trans. W.D. Halls, (London: Routledge, 2002), 68.

⁴⁶ Mauss, The Gift, 100.

⁴⁷ See Emile Durkheim, *The Division of Social Labour*, trans. W. D. Halls (London: The Macmillan Press, 1994) and Stiegler, *The Neganthropocene*, 207.

⁴⁸ Mauss. The Gift, 69.

because "to give something is to give a part of oneself."⁴⁹ There is continuity between the soma and the object, and therefore an ecstatic or projective dimension in the gift. Hence the risk of disindividuation not only in the donor, but also in the donee, penetrated by the alterity that subverts him, as Robert Esposito has already shown.⁵⁰

Secondly, Mauss identified a pharmacological dimension in the gift. In a brief 1924 article entitled "Gift, Gift" Mauss explains the double meaning of "poison" and "present" that term gift has in Germanic languages as an expression of the structural ambiguity of the gift as social phenomenon.⁵¹ It establishes a bond that is both dangerous and beneficial, where there is hostility and friendship, intimacy, and estrangement. The gift is dangerous because it is potentially destructive and, at the same time, compositional and, therefore, constitutive of the social. There are, then, two elements of technique in the Stieglerian sense that already appear in the Maussian gift that we will see in Bataille: the body projection and the pharmacological ambiguity as a characteristic of social existence.

Bataille was a great admirer of Mauss and was particularly interested in *The Gift* from his youth.⁵² Nevertheless, far from just reproducing Maussian theory, the author interprets the gift from the point of view of the theory of libidinal development, from which he especially borrows the second phase of the three phases that this development includes, called sadistic-anal. According to this theory, elaborated by Freud and Karl Abraham, if the first phase is associated with the oral cavity and sucking and biting activities and the third is related to the genital organs and sexual activity, the second is associate to anal orifice, and is governed by a double tendency towards the conservation/retention, on the one hand, and the destruction and/or loss of objects, on the other.⁵³

It is noteworthy that one of the texts in which Freud addresses this concept he states that "Faeces are the child's first *gift*, the first sacrifice on behalf of his affection, a portion of his own body which he is ready to part with, but only for the sake of someone he loves,"⁵⁴ and later he asserts that faeces are "the first piece of bodily substance the child had to part with."⁵⁵ As can be read, this lines are compatible with the Maussian gift, especially

55 Freud, "On Transformations of Instinct," 133.

⁴⁹ Mauss, The Gift, 10.

⁵⁰ See Roberto Esposito, "Introduction: Nothing in Common," in *Communitas: The Origin and Destiny of Community*, trans. Timothy Campbell (Stanford: Stanford University Press, 2010)

⁵¹ See Marcel Mauss, "Gift, Gift," in Œuvres III: Cohésion sociale et divisions de la sociologie (Paris: Minuit, 1969[1924b]): 46-51.

⁵² See Michel Surya, *Georges Bataille: An Intellectual Biography*, trans. Krzysztof Fijalkowski and Michael Richardson (London: Verso, 2002), 167–170.

⁵³ Laplanche and Pontalis, The Language of Psychoanalysis, 35.

⁵⁴ Sigmund Freud, "On Transformations of Instinct as Exemplified in Anal Erotism," in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, Vol. 17, trans. James Strachey (London: The Hogarth Press, 1955[1917]): 81, https://gallica.bnf.fr/accueil/fr/content/accueil-fr?mode=desktop.

with the bodily projection aspect. It is worth bearing in mind in this respect that for Mauss, sacrifices are defined as a gift to the gods.⁵⁶ Moreover, it must be emphasised that excrement, as this first gift, must be requested by the person in charge of the care of a child or baby, which means that, as in the gift, there is a heteronomous source for this action.

This Freudian text was translated and published in 1928 in the Revue Française de Psychanalyse.⁵⁷ We have not been able to determine whether Bataille specifically read this text, but it is very likely because it is proven that during the early 1930s he borrowed from the Bibliothèque Nationale de France issues of the journal form 1927 and 1929.58 However, even if he had not read this text, this concept appears frequently in the mentioned issues.⁵⁹ Before going to Bataille's texts, it is pertinent to mention one last reference, generally not taken into account by specialists. I am referring to the anthropologist Konrad Theodor Preuss, who in "Der Ursprung der Religion and der Kunst" relates magical practices to the bodily orifices and to the substance they excrete, which are part of what he calls cohabitation [Kohabitation]. Preuss states that "the view has always prevailed that magical power and magical substances emanate from the orifices/openings of the body, e.g., breath from the nose, sounds and saliva from the mouth, excrement from the anus, urine and sexual excretions from the genital orifices."60 Bataille mentions Preuss in a lecture at the College of Sociology;⁶¹ in this sense, Hollier suggests that this seems to refer to his text⁶², about which Mauss, in turn, wrote a laudatory review, published in L'année sociologique.63 Hollier's suggestion makes sense since Bataille gives great importance to human body excretions in the elaboration of his social theory. Indeed, the author conceives human body as an open surface, traversed by becoming: "human life cannot in any way be limited to the closed systems" since its existence is composed of an "immense travail of recklessness, discharge and upheaval" in such a way that "it only begins with the deficit

⁵⁶ See Mauss, The Gift, 12-16.

⁵⁷ See Sigmund Freud, "Sur les transformations des pulsions particulièrement dans l'érotisme anal," *Revue Française de Psychanalyse* 2, no. 4 (1928).

⁵⁸ Georges Bataille, Œuvres Complètes, Tome XII (Paris: Gallimard, 1988), 578, 585, 588.

⁵⁹ See Marie Bonaparte, "Le Cas de Madame Lefebvre," *Revue Française de Psychanalyse* 1, no. 1 (1927): 16; Sigmund Freud, "La prédisposition a la névrose obsessionnelle," *Revue Française de Psychanalyse* 3, no. 3 (1929), , and Géza Roheim, "La Psychologie raciale et les Origines du capitalisme chez les primitifs," *Revue Française de Psychanalyse* 1, no. 3 (1929),.

⁶⁰ Theodor Konrad Preuss, "Der Ursprung der Religion and der Kunst," *Globus. Illustrierte Zeitschrift für Länder und Völkerkunde*, no. 86–87 (1904–1905), 322.

⁶¹ See Georges Bataille, "Attraction and Repulsion II: Social Structure," in *The College of Sociology* (1937-39), ed. Denis Hollier and trans. Betsy Wing, (Minneapolis: University of Minnesota Press, 1982), 122.

⁶² Bataille, "Attraction and Repulsion II: Social Structure," 413.

⁶³ Marcel Mauss, "VIII. LE RITUE," in Émile Durkheim, *L'année sociologique, IX (1904–1905)* (Paris: Félix Alcan, 1906), 239.

of these systems."⁶⁴ From my point of view, Bataillean social theory is condensed in this passage. Within the ontological unfinishedness is lodged the useless—for the purposes of biological subsistence—excess in relation to which human social ex-sistence is founded as the imperative of exclusion.

In psychogenetic terms there is "necessity of exclusion"65 in the first instance of body remnants, substances excreted through the body's holes, such as menstrual blood and excrement. The psychoanalytic theory of libidinal development is here the key: in "L'abjection et les formes miserables," a draft published posthumously, Bataille states that "the imperative act of exclusion is assimilated to anal eroticism."⁶⁶ In this sense, he emphasises the heteronomous aspect of this imperative, something that in Freud is just mentioned, when Bataille states that "the act of exclusion is not directly assumed: it is communicated to the child by the mother with the help of expressive grimaces and exclamations (the possibility of this communication is based on the principle of contagion)."⁶⁷ For Bataille, this ecstatic projection of useless excess is not the immediate effect of intra-corporal energies, an idea to which Freudian metapsychology frequently resorts (and usually offers as an ultimate explanation for psychic phenomena): what is manifested as "the necessity of excluding"⁶⁸ is, as Lawtoo explains, an affect infected by other subjects through pre-discursive gestures that unleashes a mimetic reaction.⁶⁹ From my point of view, the contagion of the imperative of expulsion is the transmission of knowledge, entailing the incorporation of the technique of exteriorisation; even if it is not a highly complex action, it requires the discretisation of body movements.

Moreover, for Bataille, the "imperative act of exclusion of abject things [...] constitutes the foundation of collective existence."⁷⁰ Like the gift to Mauss, ecstatic projection is not only a relevant aspect of social life, *but the basis of social beings*, that is, of the experience of co-ecstasy. Thus, Bataille seems to be describing what for him is the psychosomatic insertion into the social ex-sistence through the contagion of the fundamental social gesture: body projection. However, the imperative of exclusion is not limited to bodyuseless remnants: it includes the immediate dissipation of bodily matter-energy in general, the destruction of wealth as well as the production of useless objects—which, in turn, may be subject to destruction. This is the domain of human activity that Bataille defines as *expenditure*, opposed to utilitarian activity whose aim is the production through

⁶⁴ Bataille, "The Notion of Expenditure," 128.

⁶⁵ Bataille, "The Use Value of D.A.F. de Sade," 100.

⁶⁶ Georges Bataille, "L'abjection et les formes miserables," in Œuvres Complètes, Tome II (Paris: Gallimard, 1970), 220, my translation.

⁶⁷ Bataille, "L'abjection et les formes miserables," 220.

⁶⁸ Bataille, "L'abjection et les formes miserables," 221.

⁶⁹ See Lawtoo, "Bataille and the Birth of the Subject," 74.

⁷⁰ Bataille, "L'abjection et les formes miserables," 221.

"supplementary apparatuses" of means to conserve and reproduce biological existence: "From the first, man has the faculty of utilizing part of the available energy for the growth (not biological but technical) of his energy wealth" which allows him "to extend [...] the elementary movement of growth that life realizes within the limits of the possible."⁷¹ Like Stiegler, Bataille sees technique as an anthropological feature by which the human being is projected outwards with technical objects and, this, prolongs the continuation and reproduction of life by non-biological means.

However, this extension is limited by the structural presence of an excess. Expenditure includes the unproductive use of this excess in "luxury, mourning, war, cults, the construction of sumptuary monuments, games, spectacles, arts, perverse sexual activity (i.e., deflected from genital finality),"⁷² but also in gifts that "must be considered as a loss and thus as a partial destruction" which "in unconscious forms, such as those described by psychoanalysis, it symbolises excretion, which itself is linked to death, in conformity with the fundamental connection between anal eroticism and sadism."⁷³ For Bataille, this active dissipation matter-energy in useless forms "externalizes intimacy" entailing the "setting in place of social existence"—which is, at the same time, the emergence of self-consciousness.⁷⁴ In other words, expenditure creates the domain of the social as a co-ecstatic experience transmitted through the contagion of the sadistic-anal drive, of which the gift is one of its fundamental expressions.

We have seen that, as for Stiegler, for Bataille the psychic individual is not a closed sphere, but an open surface which, in his early years, through a constitutive exteriority, projects itself towards an exterior—an exterior that finally is always also interior—and in this way his/she is inserted in the social. But while for Stiegler this constitutive exteriority is the transitional object, for Bataille it is the gestures of other subjects that infect the individual with the projective action. I consider that Bataillean sociology is compatible and articulable with the Stieglerian concept of technique, to which it adds the imperative of exclusion as not only constitutive of the social but, in the same movement, of technique. The imperative of exclusion shows the co-constitution of the technical and the social at the psycho-genetic level because it describes the elementary gesture of projection into the transitional space as a common zone of ecstasy.⁷⁵ Thus, through practices that go beyond

⁷¹ Bataille, The Accursed Share, 36.

⁷² Bataille. "The Notion of Expenditure," 118.

⁷³ Bataille. "The Notion of Expenditure," 122.

⁷⁴ Bataille, The Accursed Share, 190.

⁷⁵ This does not mean, however, that the Bataillean imperative of exclusion is equivalent to the concept of technique elaborated by Stiegler, a complex concept whose fundamental aspects we tried to summarise in the first part of this paper. This means, instead, that both authors meet on this fundamental of body projection as a key aspect of human existence.

the level of subsistence, the subject accesses what Stiegler calls consistence, which is the social as ex-sistence.

On Social Vortexes

In the same way as technique for Stiegler, expenditure is structurally crossed by the danger of disinindividuation and social disintegration. At this point, the question arises as to how the dissipation of substance, whether it be bodily matter or wealth can produce and maintain social cohesion. To find an answer to this question, we have to move to the College of Sociology, the group founded by Bataille together with Roger Caillois and Michel Leiris.⁷⁶

Over the course of the lectures given in the College, Bataille for the first time explicitly sets out to develop a social ontology.⁷⁷ According to this ontology, the foundation of social beings is expenditure as long as it is not only an imperative, but also an object of interdiction, taboo. For Bataille, useless expenditure is a practice of sacralisation, of production objects resulting from those spent forces, which "puts at stake the community's as well as its participants' integrity."⁷⁸ Therefore, the interdiction "established by these spent forces establishes a sort of balance by opposing an obstacle to continued expending."⁷⁹ This interplay of expenditure imperative and interdiction gives rise to what Bataille calls the "sacred nucleus" around which the subjects orbit, governed by a *communifying movement* [mouvement communie] or overall movement [mouvement d'ensemble].⁸⁰ Social cohesion emerges from this overall movement around this nucleus, that is external to individuals, and which mediates the relationships between them (unlike animals, according to Bataille, which maintain immediate interattraction), tied by shared affects of repulsion and attraction to the sacred nucleus.⁸¹

The practices of sacralisation take place at the heart of the sacred nucleus as the source of the overall movement. Those practices are always acts of transgression:

We cannot live without breaking the barriers we must give to our need

⁷⁶ For a brief history of this group, see Surya, Georges Bataille, 251-259.

⁷⁷ See Georges Bataille and Roger Caillois, "Sacred Sociology and the Relationships between 'Society', 'Organism' and 'Being'," in *The College of Sociology (1937–39)*, ed. by Denis Hollier (Minneapolis: University of Minnesota Press, 1982), 74.

⁷⁸ Bataille, "Attraction and Repulsion II: Social Structure," 124.

⁷⁹ Bataille, "Attraction and Repulsion II: Social Structure," 123.

⁸⁰ Georges Bataille and Roger Caillois, "Sacred Sociology and the Relationships between 'Society', 'Organism' and 'Being'," 74-84.

⁸¹ Bataille and Caillois, "Sacred Sociology,"106.

to expend [...] Our entire existence [...] is produced, hence, in a sort of swirling turbulence [*remous tumultueux*] where death and the most explosive tension of life are simultaneously at play. This stir [*remous*] is essentially what is produced in the centre of each individualised whole that it forms.⁸²

For Bataille, as for Stiegler, there is no society without the ecstatic projection which, at the same time, can always lead to an entropic and anthropic movement of destructive violence. However, there is also no social existence without the interdiction by which expenditure maintains individual integrity and produces the whirlwind movement that binds individuals together.

To make this idea intelligible, Bataille resorts to the vortex metaphor that gradually appears since the late 1930s. In the drafts of what will later be The Accursed Share, which were gathered under the name "La limite de l'utile," he uses the term whirlwind [tourbillon] to describe social and individual beings. He claims that "social being [...] is not an indivisible moral entity", but "a poorly delimited field of an always unfinished and never closed concentration," and if "there is a unity in presence [...] this obeys vortexes, circuits that stabilise and tend to close."83 We also read: "I can consider this life that belongs to me as a stable whirlwind: this whirlwind continually collides with others who resemble it and modify its movement as it modifies the movement of others."84 Finally, In Inner Experience Bataille states: "your life is not limited to that ungraspable inner streaming; it streams to the outside as well and opens itself incessantly to what flows out or surges forth towards it. The lasting vortex which constitutes you runs up against similar vortexes with which it forms a vast figure, animated by a measured agitation."85 The image of the individualised vortex movement that forms the social allows Bataille to make intelligible how the flow of expenditure forms a circuit when hitting the interdiction barrier, forming the social as a dynamic totality, opened to otherness including other societies, biosphere, and cosmos.⁸⁶ It's noteworthy the similarity between Bataillean metaphors and Stieglerian notion of idiotext. The idiotext describes the set of localised nested spirals formed by the process of co-production of psychic and collective individuation that constitute the neganthropic

⁸² Bataille, "Attraction and Repulsion II," 123-124.

⁸³ Georges Bataille, "La limite de l'utile," in *Œuvres complètes, Tome VII* (Paris: Gallimard, 1976), 265, own translation.

⁸⁴ Bataille, "La limite de l'utile," 270.

⁸⁵ Georges Bataille, *Inner Experience*, trans. Leslie Anne Boldt (Albany: State University of New York Press, 1988), 94.

⁸⁶ There is no systematic development of these ideas in Bataille. To try to operationalise these metaphors in order to make of them a social theory with clear and distinct concepts requires a separate investigation.

form of life.⁸⁷ Towards the end of *Dans la disruption*, Stiegler describes his experience of reading and writing during his stay in prison, from which emerged protensions that drove his philosophical path. The following passage from that narrative bears a remarkable resemblance to Bataille's description of the vortiginous character of the individual and social being:

what happened to me, and what was the formation of what I decided to call an *idiotext*, itself always included in other, innumerable, indefinite idiotexts, all caught together in the *movement of an infinite spiral* [...], was the accidental localisation of an irreducible local-ity [*local-ité*] of which noetic différance was the procedural and idiomatic test.⁸⁸

As can be read, both Bataille and Stiegler illustrate the social as a vortex movement of vortexes. However, the proximity between the two authors is not limited to the centrality of ecstatic projection and to the use of the similar metaphors to illustrate the dynamics and articulation between the social and the individual. Although he does not put it that way, for Bataille the sacred objects that found the social are technical objects in the sense that they result from projection into inorganic matter. Some of these objects are affirmed as expenditure in their useless destruction, as in the *potlatch*, and others are preserved as useless matter:

Now to live signifies for you not only the flux and the fleeting play of light which are united in you, but the passage of warmth or of light from one being to another, from you to your fellow being or from your fellow being to you (even at the moment when you read in me the contagion of my fever which reaches you): words, books, monuments, symbols, laughter are only so many paths of this contagion, of this passage.⁸⁹

This social whole includes exosomatic organs in Stiegler's terms—books, monuments, symbols—through which psychic individuals are infected with coexistence. Even though Bataille does not relate expenditure with technique, he perceives the relevance of tertiary retentions, which are their result, in the reproduction of the social circuits. More precisely, Bataille conceives these objects to be the product of unproductive expenditure in the sense that their purpose is not the reproduction of biological life, but the production of a vortiginous social ex-sistence. In this sense, when Stiegler states that in "Bataille's general economy [...] the surplus, instead of being subject to the calculus of reinvestment,

⁸⁷ Stiegler, *The Neganthropoecene*, 55 and Daniel Ross, "Too Soon / Too Late: A Pretext for a Recurrence of Bernard Stiegler," *Media Theory* 7, no. 2 (2023): 23.

⁸⁸ See Stiegler, Dans la disruption, 442-443, My translation and emphasis.

⁸⁹ Bataille, Guilty, 94.

is sacrificed, and not purely destroyed"⁹⁰ refers to the production of a useless object that embodies the "more" of the sum of the parts and thus composes a vortiginous social body. I affirm, therefore, that the Bataillean concept of society anticipates to a great extent the Stieglerian concept of neganthropy.

Conclusion

In this study, I have tried to show that Bataillean social theory anticipates several concepts of Bernard Stiegler's philosophy of technique. First, I consider that there is an important similarity regarding their general energetics since both are based on the assertion of entropic universal movement and life as anti-entropy, localised deferral of entropic non-specification force. In the case of Stiegler, based on Schrödinger, more clearly as the endosomatic organogenesis; in Bataille, relying on Vernadsky, life is explained in terms of the condensation or agglomeration of force-energy whose final source is the sun. Secondly, for both Bataille and Stiegler human existence is founded on bodily projection that founds technique and social as a co-ecstatic experience illustrated as a spiralling bifurcation in cosmic entropic and anthropic becoming. Thirdly, the affective-cognitive flows that produce social cohesion for Bataille as for Stiegler rely on tertiary retentions, that is to say, on artificial organs whose function goes beyond sustaining negentropic consistency in order to affirm neganthropological consistency.

Finally, it is noteworthy to mention that this research does not exhaust the relationship between Bataille and Stiegler. The three points of convergence which, in my view, show that Bataille anticipates important aspects of Stieglerian philosophy may be further developed in future research.

⁹⁰ Stiegler, Dans la disruption, 362

Bibliography

- Armand, Louis and Bradley, Arthur. *Technicity*. Prague: Litteraria Pragensia, 2006. https:// arsindustrialis.org/anamnesis-and-hypomnesis.
- Arppe, Tiina. Affectivity and the Social Bond. Transcendence, Economy and Violence in French Social Theory. London: Routledge, 2014.
- Bataille, Georges. "Corps célestes." In Œuvres complètes, Tome I, 514–520. Paris: Gallimard, 1970.
- Bataille, Georges. "L'abjection et les formes miserables." In Œuvres completes, Tome II, 217–221. Paris: Gallimard, 1970.
- Bataille, Georges. "La limite de l'utile." In Œuvres complètes, Tome VII, 181-280. Paris: Gallimard, 1976.
- Bataille, Georges. "The Notion of Expenditure," In Visions of Excess: Selected Writings, 1927-1939. Translated and edited by Allan Stoekl, 115–129. Minneapolis: University of Minnesota Press, 1984.
- Bataille, Georges. "The Psychological Structure of Fascism," In Visions of Excess: Selected Writings, 1927-1939. Translated and edited by Allan Stoekl, 137–160. Minneapolis: University of Minnesota Press, 1984.
- Bataille, Georges. *Erotism: Death and Sensuality*. Translated by Mary Dalwood, 40–48. New York: City Lights Books, 1986.
- Bataille, Georges. "Emprunts de Georges Bataille à la Bibliothèque National (1922–1950)." In Œuvres Complètes, Tome XII, 549–620. Paris: Gallimard, 1988.
- Bataille, Georges. Inner Experience. Translated by Leslie Anne Boldt. California: The Lapis Press, 1988.
- Bataille, Georges. Guilty. Translated by Bruce Boone. California: The Lapis Press 1988.
- Bataille, Georges. The Accursed Share: An Essay On General Economy, Volume I: Consumption. New York: Zone Books, 1988.
- Bonaparte, Marie. "Le Cas de Madame Lefebvre." *Revue Française de Psychanalyse* 1, no. 1 (1927): 168-189.
- Durkheim, Émile (Dir.). L"année sociologique, IX (1904-1905). Paris: Félix Alcan, 1906.
- Durkheim, Emile. *The Division of Social Labour*. Translated by W. D. Halls. London: The Macmillan Press, 1994.
- Esposito, Roberto. "Introduction: Nothing in Common," In Communitas. The Origin and Destiny of Community, trans. Timothy Campbell, 1-19. Stanford: Stanford University Press, 2010.
- ffrench, Patrick. After Bataille: Sacrifice, Exposure, Community. London: Routledge, 2007.
- Freud, Sigmund. "Sur les transformations des pulsions particulièrement dans l'érotisme anal." Revue Française de Psychanalyse 2, no. 4 (1928): 609–616. https://gallica.bnf. fr/accueil/fr/content/accueil-fr?mode=desktop.

- Freud, Sigmund. "La prédisposition a la névrose obsessionnelle." Revue Française de Psychanalyse 3, no. 3 (1929): 437-447. https://gallica.bnf.fr/accueil/fr/content/ accueil-fr?mode=desktop.
- Hollier, Denis, ed. *The College of Sociology (1937–39)*. Translated by Betsy Wing. Minnesota: University of Minnesota Press, 1988.
- Howells, Christina and Gerald Moore, eds. *Stiegler and Technics*. Edinburgh: Edinburgh University Press: 2013.
- Karsenti, Bruno. L'homme total. Philosophie, sociologie et anthropologie chez Marcel Mauss. Paris: PUF, 2011.
- Laplanche, Jean and Jean-Bertrand Pontalis. *The Language of Psychoanalysis*. Translated by Donald Nicholson-Smith. London: Karnac Books, 1988.
- Lawtoo, Nidlesh, "Bataille and the Birth of the Subject," Angelaki 16, no. 2 (2011): 73-88.
- Loeve, Sacha, Xavier Guchet and Bernardette Vincent Bensaude. "Is There a French Philosophy of Technology? General Introduction." In French Philosophy of Technology, edited by Sacha Loeve, Xavier Guchet and Bernardette Vincent Bensaude, 1-20. Springer, 2018.
- Mauss, Marcel. *The Gift: The Form and Reason for Exchange in Archaic Societies*. Translated by W.D. Halls. London: Routledge, 2002.
- Mauss, Marcel. Œuvres III. Cohésion sociale et divisions de la sociologie. Paris: Minuit, 1969.
- Mong-Hy, Cédric. "Le monde et Bataille. Études textuelles, contextuelles et prospectives". Ph.D. Thesis, Université de la Reunion, 2016.
- Noys, Benjamin. Georges Bataille. London: Pluto Press, 2000.
- Pawlett, Willam. Georges Bataille: The Sacred and Society. London: Routledge, 2015.
- Pellarin, Sandro. "Il Soggetto al limite. Georges Bataille e le scienze social" (Tesi di dottorato, Università degli Studi di Padov, 2017.
- Preuss, Konrad Theodor. "Der Ursprung der Religion and der Kunst." Globus. Illustrierte Zeitschrift für Länder und Völkerkunde, no. 86–87 (1905-1906): 312–327.
- Roheim, Géza. "La Psychologie raciale et les Origines du capitalisme chez les primitifs," *Revue Française de Psychanalyse* 1, no. 3 (1929): 129–133.
- Ross, Daniel. "Too Soon / Too Late: A Pretext for a Recurrence of Bernard Stiegler." *Media Theory* 7, no. 2 (2023): 1–36.
- Stiegler, Bernard. "Pharmacology of Spirit: And That Which Makes Life Worth Living." In *Theory After Theory*, edited by Jane Elliot and Derek Attridge, 294–310. London and New York: Routledge, 2011.
- Stiegler, Bernard. *The Neganthropocene*. Translated and edited by Daniel Ross. London: Open Humanities Press, 2018.

- Stiegler, Bernard. "L'ergon dans l'ère Anthropocène et la nouvelle question de la Richesse." In *Le Travail au XXIe siècle*, edited by Alain Supiot, 73-85. Paris: Éditions de l'atelier, 2019.
- Surya, Michel. *Georges Bataille. An Intellectual Biography*. Translated by Krzysztof Fijalkowski and Michael Richardson. London: Verso, 2002.
- Vernadsky, Vladimir. *The Biosphere*. Translated by David B. Langmuir. New York: Springer, 1998.