Excavating the Centrality of Materiality for a Posthuman "Anthropomediality": Steps toward an Ecological Approach

Abstract

The concept of "anthropomediality" traces a new path for the anthropological study of media, moving toward the posthuman. Matter here is central, signaling incarnated relations between humans and technologies. The paper proposes a theoretical and programmatic delineation of a relational tool: an ecological approach that focuses on materiality in the form of an analysis of strata by means of an excavating movement.

Keywords

posthuman critical theory, materiality, ecological thinking, cultural stratification, media theory

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> [M]atter . . . is not dead, brute, homogeneous matter, but a matter-movement bearing singularities or haecceities, qualities, and even operations.
>
> —Deleuze and Guattari 1987, 512

The attempt to fill the illusory gap that traditionally distances human-animals and technical objects on an epistemic level has recently lead Tim Othold and Christiane Voss (2015) to conceptualize "anthropomediality." In this perspective, media technologies are reconceived from being mere extensions of the human-animal to being elementary components co-constituting her/his becoming —aligning with a posthuman framework that is increasingly central in media and cultural studies. Once humanist dichotomies, ontological hierarchies, and the false metaphysics of representation are left behind, a vital perception of coemergence surfaces in which media technologies and the *anthropos* incarnate via a slow sedimentation on anthropotechnic strata.[1] Superficial strata are the point of departure for an excavation of materiality as a key aspect of processes of anthropomediation.

The objective of this paper is to put forward an ecological approach that will be capable of following the drill of hypogeal media anthropological investigation. To comprehend the complexity of the terrain on which anthropomediality operates, it is necessary to consider the media–human ensemble as an integral part of the environment in which she is situated and that co-determines/co-constitutes her. Hence, to fully grasp the ontoepistemological "hybridizations" innovatively continued by digital media technologies, we propose to depart from, and go back to, the incarnated and relational materiality that characterizes anthropomediality. Thus, an ecological approach is not a mere application of representations (metaphors); rather, relationality is ecological: the relationality in which both, anthropomediation and the critical study of its ethical and political implications, are

implicated; which means they are inescapably entangled through transformations, conjunctions, and reciprocal contagiousness (metamorphoses). Signaling the distance between representation and co-relationality in the processes of "becoming," Gilles Deleuze and Félix Guattari (1987) argue as follows:

> If we interpret the word "like" as a metaphor, or propose a structural analogy of relations . . ., we understand nothing of becoming. The word "like" is one of those words that change drastically in meaning and function when . . . they are made into expressions of becomings instead of signified states or signifying relations. . . . The actor Robert De Niro walks "like" a crab in a certain film sequence; but, he says, it is not a question of his imitating a crab; it is a question of making something that has to do with the crab enter into composition with the image, with the speed of the image. That is the essential point for us. (Deleuze and Guattari 1987, 274)

Thus, in the first section we are going to sketch a posthuman framework that innervates, traverses, and shapes our ecological proposal. Several cardinal points of posthuman thought will be critically considered to signal the reciprocal emergence and constitution of human–technological ensembles—permitting, then, a break with the false dualisms surrounding anthropocentric positions in the study of media. Subsequently, the focus will move toward neomaterialist approaches to culture, exploring the processes that are at stake in the emergence and temporary consolidation of cultural stratifications. Finally, our proposal will bring forward questions of temporality and vitality beyond biocentric standpoints, suggesting innovative terms in which to rethink action and study the material relationality of anthropomediation.

1. Moving the Study of Media to a Posthuman Framework, or the Rough Materiality of Anthropomediation

> [T]o refuse the posthuman in the name of a "return to the human,"' of a proudly reaffirmed anthropocentrism as the only possible setting for the production of sense, can only mean an idealistic refusal of the new conditions of associated life and of social production, only from whose interior the research of practices and experimentations to overcome the existent can be developed. (Caronia 2015, 169; transl. mod.)

In 2015, in the pages of *Anthropological Notebooks*, Othold and Voss introduced the idea of anthropomediality into the academic debate. Their starting point is the identification of an evident epistemological misreading that shapes contemporary studies of culture and, among these, the anthropological study of media. The misreading concerns the ontological relation between the human-animal and the technological object—the medium—which is often instrumentally presupposed as an external prosthesis of the human. They suggest that a shift from media anthropology—where the human-animal is the gravitational center and the media apparatus is considered a mere technic extension— to anthropomediality is needed.

The shift toward anthropomediality emerges from a change of perspective that reconsiders the mutual understanding of both the human and media object within an intermingled movement. Under anthropomediality, Othold and Voss (2015) suggest, media begin to be regarded as transformative functions of human experiences. They are differentials of experience, which are capable of opening new territories of perception, interaction, and existence, rebalancing the ancillary prostheticity that is assumed in more traditional conceptions of media technologies. Following a posthuman perspective, anthropomediality is thus described as "an umbrella term for different hybrid and temporary modes of existence,

that consist of interacting heterogeneous facets and entities—organic and non-organic, human and non-human ones" (80).

To signal the emergence of a possible anthropomediality—or, as we will characterize it via a more processual reading, the posthuman study of "anthropomediation" as an incarnated, material process—it is crucial to leave behind (amongst many) three main misconceptions. These have all been challenged by thinkers such as N. Katherine Hayles (1999), Roberto Marchesini (2002), and Donna Haraway (2003), whose critical efforts outline the development of the interdisciplinary and antianthropocentric philosophical framework known as the "posthumanities," or simply the "posthuman" (Wolfe 2010; Ferrando 2013).[2]

To begin with, the dichotomous readings that deeply characterize humanism, such as those between nature and culture, must be discarded. For instance, in philosophical anthropology, the human-animal is often considered as the fulfilment of an anthropopoietic process of emancipation from nature: a self-referential and disjunctive autarchy that elevates the human-animal above other life forms (Pansera 2001; Marchesini 2014b). Anthropopoiesis subsumes different plural existences as "objectified" entities that acquire an ancillary ontological position. In the context of this proposition, such emancipation from the "wilderness" of nature is supposed to occur through the mediation of the technical object, characterizing a second, but equally pervasive dualism: the one between the human-animal and technology. This dualism marks the academic study of media in many disciplines, dramatically signaling the leading trends of media and cultural studies and their contemporary developments.[3] In the range of these academic branches, media technologies are assumed as empty vessels: tools that work to transmit content, occupying a middle, almost "'neutral" position. Correspondingly, from an apparently opposite viewpoint, they might occupy a passive or active position at one end of a spectrum, with society and/or social relationships standing at the other end. In the former case, the text is elected as the locus of ethical and

political issues, having scientific analytical and critical interest, whereas in the latter, structures of influence, cultural domination, or ownership are the main objects of concern.[4]

Second, dichotomous readings create false ontological hierarchies that result in anthropometric readings. Within anthropometrics, the human-animal stands at the center of an ontology that captures, and has the pretension of defining, the plural and heterogeneous ontogeneses of all living and nonliving beings. The human as "'the measure of all things," famously formulated by Protagoras, becomes a subsumptive–metrical proposal through Plato and a universal model in the iconography of Da Vinci's Vitruvian Man. Furthermore, according to Marchesini (2014b), the transformation of the anthropocentric perspective in a philosophical project explicates what can be called an "'anthropoplastics": the anthropos as universal container and dimension of the world, which permits the election of Man "as a unit of measurement to define the ontological status of alterities, without admitting incommensurable elements through the human metrics" (68).

Finally, the false metaphysics of representation, according to which the impact that media have on social and political structures is implied as a "separation," has to be abandoned. Representation separates media—and the processes of mediation—from sociopolitical structures, suggesting the intelligibility of the former as being exclusively related to human rationality. As such, representation negates *enunciation*, which is always "collective" (meaning relational) and polyvocally pertains to the whole domain of life forms by not being strictly attached to signification—least of all to human signifying semiotics (Guattari 1990, 2006).

These three schematized points outline a posthuman framework that is capable of approaching both the anthropos and the medium—obviously without suggesting that posthumanism is reducible to these three main concerns. To be clearer, implying a nonanthropocentric viewpoint on media and mediation, the posthuman perspective stands as an opposite, "critical" standpoint to the hyperhumanism and technophilic approach of the

transhuman position—also known as "extropianism" (Thacker 2003). Within transhumanism, in fact, the separation between the human-animal and the technological apparatus becomes sharply focused, to the extreme point of the visionary theorization of the full uploading of a mind to a computer (Moravec 1988)—a point that confirms and strengthens, rather than negates, false dualisms (such as the one between mind and body), human-centered standards of ontological confrontation, and representational metaphysics. Conversely, from this posthuman framework emerges a vital perception of coemergence and co-constitution of the human and technology. In the words of Bernard Stiegler (1998),: "[t]he prosthesis is not a mere extension of the human body; it is the constitution of this body *qua* 'human'" (152–53; emphasis in the original). Stiegler's reflections on anthropotechnics advance the paleoanthropological work of André Leroi-Gourhan (1964–65), who decisively investigated the morphological relations between the human body and technics, particularly the technology of language. Going beyond an autarkic and self-referential understanding of the human in processes that can be thought of as anthropomediation and the readings of media technologies these imply then means to recognize the essential, or "originary," technicity of the anthroposphere (Frabetti 2011). The fact is that "we have always been posthuman" (Hayles 1999), and thus media (as well as nonhuman animals, plants, and inorganic matter) are "hybridative partners" of human culture (Marchesini 2002).

From such a perspective, media technologies and the anthropos materially incarnate via a slow sedimentation onto anthropotechnic strata. The objective of this paper is to emphasize this material relationality—an element that marginally surfaces in Othold and Voss's (2015) proposal. Our aim is to introduce and sketch an ecological approach as an analytical tool for conceiving and studying materiality in the conjunctive processes of anthropomediation. Following the proposal of Deleuze and Guattari (1987), such an approach might be designated as "stratoanalysis": a hypogeal excavation of the material relationality that forms anthropomedia stratifications. Hence, an initial step is needed to introduce the idea

of cultural stratification, casting light on the nonrepresentational expressivity of matter: an emergent constituency that, in the case of strata, occurs via "double articulation." Following this line of thinking, the different temporalities and planes of action that are crucially at stake in the relationality of materialities will be taken into critical consideration, pushing toward a conjunctive tectonics that denotes the inorganic, vital physics of *zoesis* beyond the reduced organicity of bios.

2. Matter of Culture | Culture of Matter

> Strata are historical formations, positivities or empiricities. As "sedimentary layers" they are made of words and things, of seeing and speaking, of the visible and the sayable, of bands of visibility and fields of readability, of contents and expressions. (Deleuze 1988, 47; transl. mod.)

Thinking about human culture in relation to materiality emerged as a primary trait of so-called "new materialist" approaches to culture. Since the end of the 1990s, scholars such as Manuel De Landa (1996, 2014 [first edition 1997]), Rosi Braidotti (2002, 2006, 2013) and Karen Barad (2007) have injected a novel, active, and vital understanding of materiality into cultural theory, overcoming the dualisms that for a long time characterized the study of culture (and nature), as well as moving away from its restricted representational comprehension (Coole and Frost 2010; van der Tuin and Dolphijn 2010; Wolfe 2010; Dolphijn and van der Tuin 2012). They continue a vitalist philosophical current that follows the scientific development of concepts such as complexity, chaos, nonlinearity, and self-organization, favoring ideas of becoming over being, of movement over stasis, and the importance of flows, processes, and fluxes for the study of human culture (Lash 2006).

In the early stages, it was De Landa (2014) who introduced a "new materialist" reasoning, suggesting that "inorganic matter is much more variable and creative than we ever

imagined," and proposing a cultural theory that does not privilege culture as a strictly "human" affair (16). De Landa attempts to challenge progressive and theological accounts of history, implying a material reading of human culture as capable of reaching unstable and emergent structures through coexisting and interacting processes. Disputing the determinism of linear causality, in De Landa's account, matter is seen as being generative. This is a position that does not oppose matter dualistically to signification, while simultaneously indicating its capacity to vitally constitute the morphogenetic character of "realities".

De Landa's main reference for thinking about culture in always materially dynamic and stratifying terms is the work of Deleuze and Guattari. In particular, in *A Thousand Plateaus* (1987), Deleuze and Guattari challenge the paradigms that make language the explicative metapredicate of human–cultural formations. To develop their critique of structural linguistics, Deleuze and Guattari recuperate Louis Hjemslev's double grid of content and expression, bringing forward a nonrepresentationalist reading of his linguistic net.[5] Whereas commonly Hjemslev's theory of language is approached as a cornerstone of the structural establishment of disciplines such as the philosophy of language, linguistics, and semiotics (Chapman and Routledge 2005; Volli 2008; Barber and Stainton 2010), Deleuze and Guattari (1987) detach his proposed relation between content and expression from a hierarchical reading, preferring instead a dynamic and horizontal account that is strictly joined to double articulation. Through the speech of Professor Challenger—Arthur Conan Doyle's fictional character— Deleuze and Guattari propose a topological reading of the generative processes of physical stratification.[6] Hjemslev's nonhylomorphic continuum between content and expression, and the random distribution between substances and forms within these, are seen as an introduction to a material theory of the emergence and consolidation of strata and, among them, of cultural stratifications. According to this proposition, language alone is definitively not sufficient to explain the development of human cultures —since signifying semiotics is but one of many processes of semiotization. Cultures are equally an issue of

physical formation: that is, a formation not simply entangled with materiality, but material in its emerging, relationally and complexifying temporary structuring.

As Professor Challenger remarks in his visionary lecture, stratification works through double articulation, which is a physical process that characterizes the becoming of matter, from the sedimentation of rocks to codes such as nucleic acids and linguistic structures (Deleuze and Guattari 1987). Articulation is a variable process that constitutes the strata of matter-*ing*. It is always double, first by deducing molecular units that are in metastable equilibrium from flows of particles and by imposing a certain connective order between them; second by establishing the structural stabilities and building the compounded combinations, that is, the molar order in which structures might surface and actualize (Deleuze and Guattari 1987.).[7] Deleuze and Guattari (1987) comment as such on the expressing processuality of matter: "not only do plants and animals, orchids and wasps, sing or express themselves, but so do rocks and even rivers, every stratified thing on earth. *The first articulation concerns content, the second expression*" (44; emphasis in the original).

Cultural stratification is, then, the unstable result of dynamic processes that retroactively intervene in human ontogeneses, consolidating and/or intensively originating new individual and collective trajectories. In his key text *Chaosmosis* (1995), Félix Guattari had already invited us to open autopoiesis in relational and collective terms. Similarly, Roberto Marchesini (2002, 2014a) reads the encounter with heterospecifics as an ontogenetic *overture*: an opening that permits us to account for human ontopoiesis as a hybridative and participatory process with alterities. All these considerations on relationality and materiality enable us to consider how a humanist discourse on culture as a mere "expression" of Man is inadequate: the consideration of culture as a self-referential process that closes in on itself.

Indeed, the study of media is also proceeding toward innovative lines of research that increasingly focus on the intrinsic materiality, not simply of human culture—which has been discussed in terms of its physical emergence and relationality—but also of the coordinates

that define and configure the contemporary technological infrastructure (Bratton 2015), of the embodied dispositions of media objects and flows of information (Hansen 2006; Wegenstein 2006), as well as of the ordering agencies that environmentally constitute infrastructural systems (Peters 2015). As a dynamic and emergent set of relations, media and mediation are increasingly studied in terms of scalar ecologies, the complexities of which, among many, materially involve social, political, economic, and subjective issues (Guattari 1991). In this sense, *The Stack* (Bratton 2015) is emblematic, investigating several strata of planetary-scale computation—Earth, Cloud, City, Address, Interface, and User layers. In Bratton's account, contemporary digital networks compose the accidental infrastructure of the Stack: a "hungry machine" that physically processes Earthly materials in order to keep going (82). *The Stack* examines many issues of the complex entanglements that are at stake in contemporary media ecologies, demonstrating that—by departing from obvious, yet often underestimated observation—the study of media needs to be opened to a universe of material relations and intertwined arrangements. Media, thus, are not a simple and exclusive matter of human culture. Rather, they are a composite and active set of culturally coemerging and co-constituting processes that are always material in their relational becoming.

3. I Am Strata: Toward a Zoetic Tectonics

> The fossil is what permits resemblances to subsist throughout all the deviations traversed by nature; it functions as a distant and approximative form of identity; it marks a quasi-character in the shift of time. (Foucault 2005, 171)

We have seen how stratification works in a posthuman reading of media and culture, but an additional step is needed. Indeed, excavating the materiality of anthropomediality means also rethinking the human in terms of consistency rather than essence. Disconnecting from the rhetoric of essentialism means rejecting any static and universalist description of nature

(Braidotti 2013; Ferrando 2013), instead affirming "the primacy of processes over events, of relationships over entities, and of development over structure" (Ingold 1990, 224). In the anthropological instance, talking about *consistency* has the precise objective of highlighting its *materico* becoming: a metamorphic and molecular mattering that challenges the unitary, transcendent, and determinate character of essence.[8] The same concept of the "human" belongs to a plane of immanence that is dynamic, relational, and creative. This is the eventmental plane in which concepts and things immanently intersect and the relations between multiplicities occur.[9] In his *Glossary of Schizo-Analysis*, Guattari defines the "plane of consistency" as follows:

> *Plane of consistency* [plan de consistance]: flows, territories, machines, universes of desire, whatever their differences, refer to a single plane of consistency (or plane of immanence *[plan d'immanence]),* which cannot be confused with a plane of reference. Indeed, these different existence modalities of the systems of intensity are not transcendental idealities, but real engenderment and transformation processes. (Guattari 2006, 418–19; emphasis in the original).

Such an open and embodied consistency rests on an anti-Descartean conception of the real that refuses the separation between organism and environment—on a level that, following Barad (2007), we might call "onto-epistem-ological."[10] Here, stories of structural coupling and creative co-determination between heterogeneities emerge, in disagreement with the autonomy of entities and essences in a preordered and homeostatic world.[11] Consequently, a reconsideration of the "homo–res" relation is crucial to the objective of reformulating the dynamics of conjunction with matter: how do we touch, and how are we touched by, the material consistency of a stratified and stratifying reality?

Primarily, our proposal pivots on the *zoetic*, implicating more than a vitalist description of biotic and abiotic materialities. According to the materialist, postanthropocentric turn suggested by Braidotti (2013), *zoe* is "the dynamic, self-organizing structure of life itself . . .: the transversal force that cuts across and reconnects previously segregated species, categories and domains" (60). Moving Braidotti's ethical and political proposal forward, matter, in all its forms and consistencies, must be considered as inseparable from its milieu: the environment in which it is situated and where its relations are maintained. Shifting the focus toward *zoesis*, indeed, allows the grasping of matter in its relational becoming. Here, what "becomes" does so due to a mutual molecular entanglement between materialities, between biotic and abiotic plates, drifting and settling with and on each other. Such a perspective implies a new physics of conjunction that is *inter materica*; a physics that is sensitive to the multiple action strategies of matter, and that can be discussed in terms of *heterochronies*.[12] The core of the proposal is to rethink the roles of the elements that are involved, redistributing their responsibilities. Accordingly, the account of relationality is not presupposed in crystallized and localized space–time coordinates, as for instance happens with the nodes in a network (A+E). Via heterochronies, relationality is situated in dynamic and emergent terms (Æ): the same coordinates of strata. The image that shows man on one side and the medium on the other crumbles, and—following Varela et al. (1991)—an enactive reconstitution of becoming-anthropomediated emerges: a relational becoming that is co-implicated by the direct or indirect engagement of a tool or a system of knowledge that is processually conjunct and embodied.[13] The critique of the classic conception of relation—as disjunctive, closed, and determined—permits us to configure an open and creative conjunction: a configuration that is able to trigger certain actions and perceptions (being also capable of creating certain experiences), the transient alteration of time and of the experiential space that is the explicit result of a material and molecular, as well as epistemological and performative, hybridization. Focusing on the materiality of media contests any simple

disassembling of the technological object with the aim of understanding "how it is done," nor is it an investigation to track and archive its component parts. Surely, we must depart from the recognition of the relevant position of hardware, its constituent pieces, and of physical transmission.[14] Nonetheless, in our proposal, centering on materiality is an opportunity to reformulate the terms and dynamics of media relationality, stressing the physical and entangled level of engagement.

Many academic researches have been moving in this direction. For instance, in media studies, Jussi Parikka (2015) pushes to the extreme the interest in materiality and temporality that is already central to media archaeological approaches (Parikka 2012; Huhtamo and Parikka 2011). He provides the ground for *A Geology of Media* (2015) as "a temporal and spatial materialism of media culture"—a media and cultural historical analysis that ecologically "insists on a particular aspect of this relation between media and the geophysical environment" (3). Similarly, in the ambit of cognitive archaeology, Lambros Malafouris's (2013) Material Engagement Theory (MET) aims "to restate the problem of the interaction between cognition and material culture . . . by placing it upon a new relational ontological foundation" (35). According to MET, the exchange occurring between the brain and materiality is not an "internal" implication that is caused by the practice or interaction with the material world. Rather, this exchanging reciprocity is tightly related in continuity and co-extension to it (esp. 48–49). Finally, Tim Ingold's (2011) cultural ecological reflections stress the consistent dimension of relational engagement. Ingold deepens and problematizes the same idea of materiality, reaffirming the combination and intimate, relational conjunction that co-involves matter and anthropos:

> Like all other creatures, human beings do not exist on the "other side" of materiality, but swim in an ocean of materials. Once we acknowledge our immersion, what this ocean reveals to us is not the bland homogeneity of different

> shades of matter but a flux in which materials . . . undergo continual generation and transformation. (Ingold 2011, 24)

In line with the proposals of these scholars, the posthuman perspective of zoesis emphasizes the times (temporalities) and ways (modes) in which engagement operates, (a) highlighting the diachronies and synchronies of relations—the hetero-chronic character of relationality—and (b) underlining counterintuitive or unexpected action strategies that testify to the active collaboration and participation of biotic or abiotic matter. [15]

Heterochronies are the different temporalities—synchronies and diachronies—within which, and from which, the relationship and the involved matter oscillate.[16] Within a zoetic tectonics, heterochrony is the substrate of conjunction, the plane where consistencies decline by emerging from the relation between different materialities and between different space–time action and reaction strategies. In the case of media, the medium is the embodied prosthesis, the "epistemological partner of hybridization" (Marchesini 2002, 2014b) with which we differently emerge and experience the space–time continuum and, therefore, the partner with whom we act (and by whom we are acted upon).[17]

Anthropomediation is a curvature, a corridor, or a river where sedimentation occurs—recalling De Landa's (2014) neomaterial cultural theory. It is a movement that is not separated from its sources and from the informatic and performatic ocean in which the river flows. The material engagement and the relationship are an experience: they are a construction, the stratification of hybrid bodies, the stratification of that movement and that ocean. They are zoetic and heterochronic strata. The conjunction with cultural, anthropic, and material production inaugurates an alteration of space–time that is not illusory, but transient and effectual. When we use our "smart" devices daily, when we take the train, when we use a pen to write, there are a multitude of historical trajectories in the apparent simultaneity of gesture and engagement: contaminated and contaminating material heterochronies that make

of the relation a multistratum region. Human experiences have always been anthropomediated, which means that the same construction of space–time is a chaosmosis of heterochronies and multiple strata: it is a chaosmosis of drifting and continuously setting plates. We do not live in a context of autonomous and isolated events, singularities and time units. Rather, we are a flow of processes, a plurality of syncopated rhythms comprised of decelerations and accelerations. The process of fossilization is a useful example that can help to better understand what is at stake in our proposal.

From a canonical perspective, the phenomenon of fossilization is the product of the transformation of a biological organism whose remains have avoided decomposition. Of course, different types of fossilization exist, but the main point here is to highlight the plane of heterochronies that crystallize in the fossil. An ammonite specimen, which lived between 400 million and 65 million years ago, over thousands of years is slowly reconstituted by inert material and safely sediments in strata. Millions of years later, a paleontologist discovers the fossil, reconstructing its origins and metamorphoses. The section in Figure 1 clearly shows the spectacular result of the conjunction, at different times and through different actions and reactions, of different materialities, which compose *hic et nunc*—here and now—the fossil. The metamorphosis of this ammonite is not complete and definitive. Conversely, it is in becoming, exactly as its inert materialities are, which now form its consistency.

Figure 1. Ammonite (Tomomarusan)

Nevertheless, the most interesting aspect is trying to reverse the description of this fossilization process. Moving from a biocentric viewpoint, while working with zoesis, fossilization can be described as a process in which it is inert matter that metamorphoses. The ammonite shell, then, becomes a medium, a hybridization partner able to provoke a transient and effectual alteration of space–time. First of all, this example is key if we are to defamiliarize ourselves with a limited conception of media as merely technical tools for communication, shifting the focus toward processes of mediation and duration. Moreover, it makes clearer the centrality of heterochronies for a zoetic relationality that moves between materialities. Finally, it implies a second fundamental step: the possibility of releasing action from thought and movement, recognizing that the strategies that are adopted and expressed by the inert bodies of the real are active and dynamic, as well as counterintuitive and unexpected.

Too often, in fact, inert matter is considered as passive and inactive bodies: immovable objects on which we act upon. We propose new cartographies that posit creative chronotopical coordinates—diagrammatic charts to creatively map the multiplicity of consistency, instead of representing matter as anthropomorphic, supporting the dictates of an anthropocentric and "intuitive" physics. Quantum mechanics has already formulated the

entangled molecular relationality of matter, permitting scholars such as Karen Barad (2007) to definitively break with the false ontology of representation via the fundamental inseparability of "intra-action." According to Barad,

> *agency is a matter of intra-acting; it is an enactment, not something that someone or something has*. It cannot be designated as an attribute of subjects or objects (as they do not pre-exist as such). It is the enactment of interactive changes to particular practices— through the dynamics of intra-active activity. (178; emphasis in the original)

Interagential acting, together with the overcoming of Descartean and anthropocentric prejudices, permits the temporary delineation of the stratoanalytic excavating probe. The ecological hypogeum of stratoanalysis proceeds beyond homo–res separation and agential one-directionality, transversally connecting with the plane of materialities. Barad's (2007) development of intra-acting clarifies the dynamics that are at stake in the emergent becoming and sedimentation of strata. Moreover, it foregrounds the mapping of the chronotopical coordinates of heterogeneous conjunctions. In fact, the molecular disposition of individuations and its performativity are intimately intertwined with the heterochronic rhythm of the intra-acting that constitutes them.[18] Thus, it becomes more interesting to ask, as Malafouris (2013) suggests, "when is an agent?" (51). This research question advances the idea that "*if there is such a thing as human agency, then there is material agency*" and "*there is no way human and material agency can be disentangled*" (119; emphasis in the original). For these reasons, "[w]hile agency and intentionality may not be properties of things, they are not properties of humans either; they are the properties of material engagement" (119).

Following such developments, we need to make a significant counterintuitive effort to redevise the criteria by which an agent is recognized, conceptualized, and thought. It seems

indispensable to discard the legacies of *scala naturae*—the great chain of being that used to hierarchize the real, positioning Man, the beloved creature of God, the superior animal, above a silent and motionless, abiotic materiality. The way we relate to our computers, rosemary plants, or dogs radically changes, thus implicating novel ethical and political collective responsibilities. Undoubtedly, we can easily anthropomorphize pets or plants, but we are hardly capable of recognizing the plane of action of a stone.[19] The point here is not to argue that the stone act—this would be again a very anthropocentric statement. Rather, we need to rethink the terms of agency, taking into account forms of action that are different from those we are able to perceive or recognize.[20] We find out, for example, that the inertia of a mineral is not an absence or an inability, but a possibility. Even when an external force moves the stone, it is its inert strategy that is called into question. This implies a substantial renegotiation of the responsibility of the act. The dynamics of this material engagement are distributed among the involved elements and their different planes of intra-activity, rethinking the operationality of matter in terms of a conjunction whose hybrid result emerges from the intimate relationship between zoetic and heterochronic consistencies. The medium as such thus becomes a partner whose participation is physically active and embodied.

4. Conclusions

> Far from reverting into nature as had been imagined it was in the past, it is up to ecology to reinvent novel ways of "being" in the world and novel forms of sociality. (Guattari 1991, 9; transl. by the authors)

To summarize, our proposal to approach the consistency of materiality within processes of anthropomediation moves within a posthuman framework of research that challenges some of the main misconceptions that assume the human-animal to be a self-referential autocatalytic venture. We have discussed how such a framework is decisive for the contemporary academic study of media and cultural formations, particularly for the fallacies of dichotomous readings,

anthropometrics, and representationalism. Moreover, we have shown how human cultural origination and stabilization have been studied as a matter of material emergence and consolidation via the movements of double articulation. Focusing on the intrinsic materiality of culture offers a processual and relational trajectory for the conception of a possible stratoanalytic device, which implies scalar-ecological complexities to ethically recognize and put forward collective forms of acting as well as different, temporal heterogeneities.

Finally, we proposed a zoetic comprehension of biotic and abiotic materialites that allows us to open our approach to a physics of inter materica conjunction that is sensible to the different action strategies of matter, discussing such a conjunction and strategies in terms of heterochronies, highlighting the spatial–temporal alterations inaugurated by material entanglement, and suggesting a redistribution of performative responsibilities within relations, detaching action from thought and movement, and reinflecting the potency of inert bodies as active and dynamic rather than passive and quiescent. The resulting ecological, relational, and investigative diagram rethinks the operationality of matter, implying a plane of collective entanglement whose hybrid results emerge from the intimate encounter between zoetic and heterochronic consistencies, and from a vital relationality that goes beyond the organicity of bios and a heterogenetic (space–) temporality that moves between material plateaux.

In conclusion, within a posthuman anthropomediality, materiality needs to take seriously into consideration heterogeneous temporalities and distributed forms of entangled action. As such, it allows us to approach "mattering" ecologically, working as a relational and hypogeal stratoanalysis that considers antropomediation as a collective process; a becoming with the strata of a zoetic tectonics of matter. Rather than simply implying the empty transmission of content, mediation is a life process, referred to by Kember and Zylinska (2012) as the "lifeness of media." Media do not structurally mediate between different social formations, acting "on behalf of a third party," but stabilize in, and actively originate, always

novel forms, since— as Kember and Zylinska suggest by drawing from assumptions of originary technicity— "*we have always been mediated*" (194; emphasis added).

Stratoanalysis is intensively and intimately an ecological approach: a cartographic, distributed device that relates to the consistencies of materialities from a zoetic involvement, recognizing the intrinsic entanglements of embodied molecularities and equally aiming to conjoin to the pure immanence of the energetic continuum of matter. This closing remark is needed to stress the materialist performativity of a situated stratoanalytic approach. As Deleuze and Guattari (1986) argue by reading Kafka's oeuvre as a "minor literature," this works via metamorphoses—the intensive passages of transformations—and not via the metaphorical representations of signification.

> [I]f we consider the plane of consistency we note that the most disparate of things and signs move upon it: a semiotic fragment rubs shoulders with a chemical interaction, an electron crashes into a language, a black hole captures a genetic message, a crystallization produces a passion, the wasp and the orchid cross a letter . . . There is no "like" here, we are not saying "like an electron," "like an interaction," etc. The plane of consistency is the abolition of all metaphor; all that consists is Real (Deleuze and Guattari 1987, 69)

Likewise, excavating the centrality of materiality is not a metaphorical hint: it is an ecological attempt to politically and ethically activate new modes of practice and research within interdisciplinary posthumanities.

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Figure 1. Ammonite. Creator: Tomomarusan. Source: Wikipedia, CC BY 2.5 (https://creativecommons.org/licenses/by/2.5/).

[1] *Anthropos* (ἄνθρωπος) is Greek for "human."[Production: Move endnotes to follow *Notes* head.]

[2] There is not space here to fully develop an investigation of posthumanism. Indeed, the term is often used in the academic debate to designate a broad spectrum of theoretical positions that recognize the open processuality of, and continual negotiation with, the alterities of the human animal. As will emerge throughout the investigation of posthumanism in this context, the term

[2] There is not space here to fully develop an investigation of posthumanism. Indeed, the term is often used in the academic debate to designate a broad spectrum of theoretical positions

that recognize the open processuality of, and continual negotiation with, the alterities of the human-animal. As will emerge throughout the text, we consider it in the context of the anti-anthropocentric movement that genealogically goes back to Michel Foucault's (2005) recognition of the epistemological emergence, as well as the prevision of death, of the human. According to Wolfe (2010), such a theoretical line passes also along the developments of second-order cybernetics—and in particular the work of biologists Humberto R. Maturana and Fransisco J. Varela (1980). Moreover, the references that we make to the work of Gilles Deleuze and Félix Guattari signal their relevance to the more recent crystallization of the posthuman framework. Within this framework, we take into consideration so-called "new materialism"—even though it is not possible here to explore all its variations (see Coole and Frost, 2010; Dolphijn and van der Tuin, 2012). Conversely, we reject the hyperhumanism of so-called "transhumanism."

[3] During the 1960s and 1970s, two leading trends characterized the advance of media and cultural studies. These two determinisms brought forward a disjunctive and dualistic perspective—they fostered diametrically opposite positions. The writings of two leading scholars in the field can typify the two positions in question: Raymond Williams being representative of the so-called "Society Shaping Technology" (SST) framework, and Marshall McLuhan of the so-called "technological determinist" position. The former, being chronologically a theoretical response to the latter, signaled the leading trend in the discipline. Without entering into the details of the many aspects that delineate these perspectives, it is possible to distinguish that, for the SST framework, media and culture principally inhere within the social field, while, in contrast, for the perspectives exemplified by McLuhan, technology has its own capability to act upon human society, conducting its progression via technical innovations. For details, see Williams (1974); McLuhan (1994); and Lister et al. (2009, esp. 77–82).

[4] We recognize the key position these approaches have in the critique of contemporary power formations, cultural oppressions, and economic inequalities. This does not hinder underlining the many ontological and epistemological limits of these academic studies. There is not space here to detail the various positions and their ontological flaws in contemporary developments of media and cultural analyses. However, significant examples of the ways in which media are positioned such as those described in this paragraph are the political-economical studies of media and strands of global media studies, the methodologies of which are based on, among others, textual analyses and audience research. See Wasko (2011); Miller and Kraidy (2016).

[5] The Danish linguist was, in fact, the only one "to have actually broken with the signifier and the signified" relationship, advancing "a very important conception of 'matter' or 'purport' (sens) as unformed, amorphous, or formless" (Deleuze and Guattari 1987, 523, 531). Guattari's "Hjelmslev and Immanence" in *The Anti-Oedipus Papers* (2006, 201–223) is a draft for the ideas that Deleuze and Guattari later developed in *A Thousand Plateaus* (1987). Guattari recognises Hjelmslev's attempt to break with the transcendence of linguistics, drawing parallels between Deleuze and Guattari's theory of abstract machines and Hjelmslev's semiotic machine.

[6] Deleuze and Guattari's choice of speaking through Professor Challenger is not casual. Indeed, the Conan Doyle fictional character, who first appeared in the 1912 novel *The Lost World*, is the protagonist of the short story *When the World Screamed* (1928). In this story, as part of his experiments, Challenger drills the Earth to make it scream. Challenger's scientific sadism reveals a central point for Deleuze and Guattari, as well as for our argument: that matter is not brutal and dead, but actively participates in the stratifications of human cultural formations.

[7] Manuel De Landa (2014, 60) explains the process of double articulation through the case of a water stream—such as a river. According to De Landa, the river is a "hydraulic computer"

that selects and distributes pebbles, promoting the emergence of a "novel" rocky formation via their slow sedimentation. Heterogeneous pebbles are the substance of content that is accumulated during sedimentation. The small rounded stones—now more homogeneous—are then distributed in more uniform strata, which are the form of content. Subsequently, consolidation occurs: new relations between pebbles emerge (thanks to the substances that are present in the water) and, in a final movement, the rock consolidates with its new qualities, characterizing the form and new substance of expression.

[8] The term "materico" is mostly used in the field of art history to describe the materiality of thick layers of colour that are used particularly in painting. As such, the adjective is used here to stress the material constituency of becoming, beyond the strict material character of colors.

[9] "Eventmental" refers here to the dimension of the event as Deleuze discusses this throughout his work—and, in particular, in his key text *The Logic of Sense* (1990). Accordingly, the event is an immanent and particular set of relations that is provoked by the encounter and collision of various forces—virtually being the productive potential of those same forces.

[10] In an attempt to dispute the separation of ontology and epistemology, Karen Barad (2007) calls "onto-epistem-ology" the possibility of "knowing" as "a material practice of engagement" occurring "as part of the world in its differential becoming" (91).

[11] "Structural coupling" is a concept developed by Maturana and Varela (1992) in order to understand the organisational processes that sustain living systems, and in particular "whenever there is a history of recurrent interactions leading to the structural congruence between two (or more) systems" (75). Even though we appreciate Maturana and Varela's highlighting of relationality and openness, their proposal suffers from an evident zoocentrism and an excessive ontological reductionism to the detriment of the vegetable realm that, in their examples, is often reduced to a generic and not-specifically-defined "environment."

[12] The term *heterochrony* comes from developmental biology. However, its use here is not reduced to this field, where it generically indicates one of the key principles of evolution, that is, a "change in the timing of development" (Gould 1979, 225); a "variation in the rate or timing of developmental processes or events over evolutionary time" (Schlesinger 2008, 111). For examples of how the concept is intended and has historically developed, see Gould (1977, esp. 423).

[13] "Enaction" is a lived cognition in which the sensory and motoric processes of the organism are inseparable: it consists of an action that is guided by perception within a circular path. Structures of knowledge emerge from recurrent sensomotoric diagrams. These diagrams permit action to be perceptively guided and cognition to be directly dependent on the type of experience that is built and embarked. Following the enactive approach, thus, the cognitive process is *enaction*: a story of structural coupling that produces – enables, *enacts* – a world. For details, see Varela et al. (1991).

[14] The work of Friedrich Kittler is a key reference for "hardware" media theory, since it gives prominence to the study of physical transmission, coding a signal transmission and processing it. See Kittler (1990, 1999).

[15] In classical physics, time is conceived as a series of discrete and continuous moments on a line that proceeds toward the infinite in both directions. Later, Einstein's relativity theory challenged this view via the conception of the fourth spatial dimension of "space–time." However, this is a position still contiguously anchored to Newtonian physics. Particularly, it maintains a linear and deterministic view of the arrow of time, suggesting a "relative" nature of space and time that presupposes the separation of the observer and the observed. Quantum physics, conversely, proposes a relational understanding of time according to which the hierarchical distinction between subject and object collapses and measurements take a decisive, generating position. The work of Prigogine (1980) on time can be located between

these positions: via temporal irreversibility, it challenges the aftermaths of determinism, equally detaching measurement from its subjective aspects. Here, "bifurcations" become cardinal in the mechanisms of becoming, giving emphasis to the probability of certain emerging structures over others. Thus, speaking of "time" and "times," we do not want to postulate or reference the existence of an external, autonomous, separated, and linear temporal parameter. The heterogeneous temporalities of heterochrony aim to recall the relationality in which materialities are intimately involved, sedimented, and stratified, without renouncing the ethical and political potentials that are intrinsically offered by such relational dynamics—which might, hence, enable new points of bifurcation.

[16] Tom Gauld's *Two Rocks Converse* (2010) is an interesting example of nonhuman temporalities. Even though the comic-strip anthropomorphizes stones and their interaction, it is an easy entry into nonhuman, geological temporalities.

[17] Marchesini (2002) explicitly indicates those he considers to be the chief hybridative partners of the human-animal: (a) nonhuman animals; (b) tools; (c) psychotropic substances; (d) computers. According to him, such "epistemological hybridization" with nonhumans permits the surpassing of the threshold of domains and predicates: the crucial plane of contamination with heterogeneities (Marchesini 2002, 155–158). For an English account of the work of Marchesini, see the special issue of *Angelaki* dedicated to philosophical ethology (Bussolini et al. 2016).

[18] For more on the subject of individuation, see the work of Gilbert Simondon (1989).

[19] Even though we would be able to recognize the plane of action of inert materiality through a counterintuitive attempt, we would obviously tend to anthropomorphize such a movement. An interesting cognitive experiment highlighted the human tendency of interpreting casual movements as intentional. As humans, we do not simply tend to use narrative strategies to describe nonhuman behavious in term of agency; we also "humanize" the actions that are described. In 1944, Heider and Simmel (1944) subjected three groups of people to a short movie. In the film, three geometrical figures (a small triangle, a circle, and a bigger triangle) moved at different speeds, interacting with each other. The movie also presented a big rectangle whose extremity was capable of opening or closing on one side, imitating a door. The descriptions collected by the psychologists at the end of each session demonstrated the inclination to humanize the behaviour of the shapes via narrative reconstructions, such as a figure attacking another, or running away from it. For details, see Heider and Simmel (1944).

[20] As has already been specified, according to Barad (2007), agency must be reconsidered in terms of "intra-action," or better "intra-acting": "*Agency is about changing possibilities of change entailed in reconfiguring material-discursive apparatuses of bodily production, including the boundary articulation and exclusions that are marked by those practices in the enactment of a causal structure*" (Barad 2007, 178; emphasis in the original).