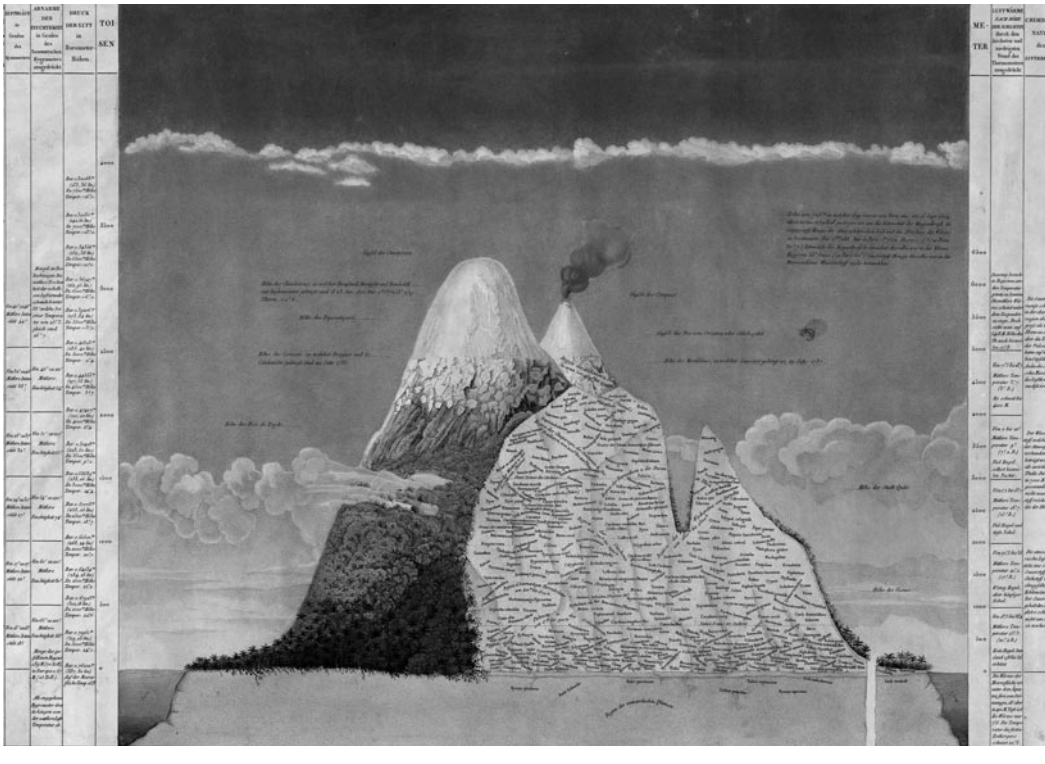
Alexander von Humboldt and A.G. Bonpland. *Geographie der Pflanzen in den Tropen-Ländern; ein Naturgemälde der Anden, gegründet auf Beobachtungen und Messungen, welche vom 10.ten Grade nördlicher bis zum 10.ten Grade südlicher Breite angestellt worden sind, in den Jahren 1799 bis 1803* (Geography of plants in the tropical countries; A tableau of nature in the Andes, based on observations and measurements taken from the latitude 10 degrees north to 10 degrees south, in the years 1799 to 1803), 1805. Drafted by Alexander von Humboldt, drawn by Schönberger and Turpin, engraved by Bouquet, script by L. Aubert, printed by Langlois. Detail. From Alexander von Humboldt and A.G. Bonpland, *Ideen zu einer Geographie der Pflanzen nebst einem Naturgemälde der Tropenländer* (Essay on the geography of plants with a tableau of nature in the tropical countries; 1807).



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Air as Medium

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"The air, the air is everywhere," they sang back in the hippie days in the musical *Hair*. That was 1967, when we still thought air pollution was the only thing wrong with the air. Since the age of industrialization, air pollution in the form of smoke and soot has been seen as a symptom of modernization, both hailed as a sign of industrial progress and loathed as a transformation of breathable atmosphere.[1] Today, with climate change, we know better. Air quality has moved from a local predicament to a global disruption, affecting not just local biotopes, landscapes, and settlements, but the entire life system of the planet. This brings into focus a substance so basic to life on earth that we are hardly ever aware of it. Yet, *what is air?* We breathe it, we feel it, we travel in it, and we are touched by it. We see and hear only through and within it. Air is generally defined as the atmosphere of the earth, the layer of different types of gas surrounding the planet. Chemically, air contains 78.09 percent nitrogen, 20.95 percent oxygen, 0.93 percent argon and other trace gases, and 0.04 percent carbon dioxide, as well as some other greenhouse gases. In addition, air can contain a variable amount of water vapor, depending on location and weather conditions. Most of these components are imperceptible to the human body unless their proportion in the atmosphere changes significantly. What we usually do feel is air temperature, humidity, and—with strong winds or high altitudes—changes in air pressure. Finally, microparticles and aerosols, generally known as "air pollution." With unprecedented levels of pollution in cities such as Beijing, Delhi, or Riyadh, we can feel and see the profound alteration that modern life has brought upon the air.

Seen this way, air is a chemical formula, a complex, yet clearly defined scientific object studied in disciplines such as climatology, atmospheric chemistry, physics, and medicine. Air, in the words of Bruno Latour, is "a matter of fact."[2] Be it in the form of pollution or rising levels of greenhouse gases, the changing composition of air is also one of the biggest environmental problems we face—a "metaproblem," as it were, composed of many changes and disruptions, such as rising levels of greenhouse gases, the acidification of the oceans, the ozone hole, and so on. As such, the air has become a "matter of concern": a highly contentious object of political debate and human decision-making. Even if, in the last decades, we have improved our models and simulations of the chemistry and

dynamics of the earth's atmosphere and enlarged our knowledge about how potential future behavior will influence this hypercomplex system, "air," currently mostly referred to as "climate" or "atmosphere," remains elusive, both as a matter of fact and as a matter of concern.[3] Air radically transcends traditional scales and instances of political decision-making from municipalities to nation-states and even supranational institutions. One of the most important yet most difficult challenges politics faces today is, in Latour's words, "to assemble a *political body* able to claim its part of responsibility for the Earth's changing state."[4] The question is how and on what basis such a political body might be assembled. How could we conceive of air as a novel political entity that demands new forms of knowledge, decision-making, and consensus? As Jim Dator writes, the problem is not just one of conflicting interests but of the *scale* at which these conflicts play out: "Environmental, economic, technological and health factors are global, but our governance systems are still based on the nation state, while our economic system ('free market' capitalism) and many national political systems (interest group 'democracy') remain profoundly individualistic in input, albeit tragically collective in output."[5] The air is both global and local, and it is a hybrid between human politics, scientific knowledge, and processes of nature. Yet it is also, paradoxically, an object that defies its scientific "objectification" and a matter so elusive that it refuses to be mere "matter." "The air is unique among the elements in . . . signifying the being of non-being, the *matter of the immaterial*," Steven Connor writes.[6] Air is an issue that is so close and so omnipresent that we still have a hard time even grasping it as an "issue"—and not just taking it for granted as mere background.

An Elemental Medium

To seize the complicated nature of the air, this article proposes an understanding of air not so much as mere *matter* but as a *medium*. This means looking not only at what air *is* and how it *behaves*—considered from the standpoint of the natural sciences—but also at the functions attributed to it as a medium: more specifically, as a *medium of life*. I will therefore focus mostly on its *epistemology*; that is, on the current and historical functions attributed to the air and its various synonyms such as *climate*, *atmosphere*, or *weather*. Instead of seeing air as an externalized object of scientific investigation, this means undertaking a historical and cultural epistemology of air not only as an environment but also as an intrinsic element of human civilization, human knowledge, and phenomenological experience, as Luce Irigaray suggests: "Is not air the whole of our habitation as mortals? Is there a dwelling more vast, more spacious, or even more generally peaceful than that

of air? Can man live elsewhere than in air?"[7]

How might air be understood as a "medium"? A medium is that which is "in the middle," between two entities (the word is originally derived from Greek *metaxy*—"in between, among"), or "a substance regarded as the means of transmission of a force or effect . . . a surrounding or enveloping substance."[8] Recent media theory tells us that media are not just human-constructed tools and technologies of communication, data processing, storage, and representation. The notion of "media" cannot be reduced to technology and "aesthetics." As John Durham Peters argues, media are, more elementarily, "vessels and environments, containers of possibility that anchor our existence and make what we are doing possible."[9] Elements of nature such as air, climate, the ozone layer, fire, water, and soil are not just the *material basis* of life; they are its *conditions of possibility*, its "infrastructure," as it were. Based on the antique theories of the four elements, David Macauley suggests that rediscovering "an elemental connection with the natural world and earth, fire, air, and water, . . . we might find once again . . . that the elements are also our . . . means of constructing and connecting with the cosmos."[10] The elements are the basis not just of biological life but of life in a cognitive and social sense. In this context, however, I would like to focus on the *specificity* of air, precisely because of its "medial" qualities, its constitutive function not just for biological life as we know it but for the social dimension of human life. The philosopher Emanuele Coccia has recently argued for understanding the medial nature of air as the principle of mixture and connection: "The climate is the system of cosmic fluidity. . . . In order for a climate to exist, all the elements within a given space must be at once mixed and identifiable—united . . . through the same 'atmosphere.'"[11] The air enables movement and perception (hearing, sight, and smell), as well as communication, travel, situatedness, and dislocation, inasmuch as it joins the members of societies and cultures in a common climate. To treat air as a medium is above all to take a methodological approach that facilitates a broader understanding and appreciation of the role air plays in conditioning and articulating forms of life. I therefore suggest observing and analyzing the ways in which, historically and epistemologically, air has been addressed as a medium. Historically, air has served as an interface by means of which discourses on identity, social institutions, and human bodies could be linked to landscapes, the atmosphere, the vagaries of the weather, and the heavens. As such, air has been the medium that has both linked and differentiated society and nature, the local and the global, cultural identity and difference. Finally, a media analysis of air may bring back into focus a complex *cultural* understanding of climate that has been lost with a modern understanding of atmosphere.

Places and Flows

To come to an understanding of the strange status of air as a medium linking natural and social spheres, one may start by looking into a genealogy of the conceptions and approaches humankind has developed to understand and describe the nature and effects of the air. While today we tend to externalize and objectify air—or, more generally, the "environment"—as a fact of nature that must be separated from the constructions of human civilization, older discourses on air challenge this separation. Human bodies, minds, and mentalities were once considered to be profoundly formed by the climates in which they dwelt. This tradition, which ranges from antiquity to the Enlightenment and beyond, offers an epistemologically "messier" but richer definition of *air* than today's definition of climate as the "average weather." The older definition is based on the antique theory of the four elements—air, water, fire, and earth—established by the Pre-Socratic philosophers. The Milesian philosopher Anaximenes considered air the primary substance from which all other elements are made, thus claiming that all matters are, in essence, one and the same. While Pre-Socratic theories of the elements have recently been revived as a fundamental alternative to the Cartesian separation of matter and spirit, nature and culture, one of the earliest treatises in medicine, "Airs, Waters, and Places," attributed to Hippocrates, develops a more specific theory of air as *human environment*.[12] "Whoever wishes to investigate medicine properly," the treatise begins, "should . . . consider the seasons of the year, and what effects each of them produces, for they are not at all alike . . . the winds, the hot and the cold, especially such as are common to all countries, and then such as are peculiar to each locality."[13] The text, which dates to the fifth century BCE, develops a theory of the influences of "air"—here used as an umbrella term incorporating multiple natural factors such as wind, air quality, rainfall, the nature of the soil, water sources, and seasonal weather patterns. The text argues that human life is intricately bound to what we would call "environmental conditions." As bodies are marked by the peculiarities of the locations and climes that people dwell in, so are the mentalities of the inhabitants. The climate, used in this broader sense, was even thought to have a profound influence on human life, culture, and social institutions. For better or worse, human beings were seen as fundamentally marked by the places (*topoi*) where they lived. The air was considered to be the link between bodies, civilizations, and their environment.

Derived from the Greek *klinein* (to lean, rest, recline, bend), "climate" was originally a purely geographical term, denoting a position on the earth defined by latitude (i.e., the specific inclination of the sun on a given place at summer solstice). Early on, however, the heat or cold of any locale within the known

world was seen to account for the mentality, the ethnic features, and the cultural institutions of the human beings living there. Shaping the life in a given place, the air served to explain the differences between cultures, religions, social institutions, and mentalities. For a long time, cultural differences were strongly attributed to the differences between the climatic zones. Hot climes, the argument went, produced cultures and mentalities prone to laziness and lust, while cold or temperate zones were said to foster cultures governed by rationality, discipline, and a lack of imagination, as Montesquieu, for example, claimed.[14] Air here is a predicament that binds together individuals, bodies, metabolisms, mentalities, social institutions, and political forms. It can even account for aesthetic styles, tastes, forms of thinking, or the preponderance of certain psychic dispositions such as melancholy.[15] This idea of a causal link between climate and society is today largely rejected as climate determinism, which has historically been exploited to promote racist and colonialist arguments about the alleged superiority of cooler climates over hot zones. Yet it can also be understood as a way of theorizing the bond between civilization and its material living conditions, without necessarily falling prey to the deterministic or racist fallacy. It is a way of understanding culture and civilization not as forms of human independence from nature but as negotiations with the environments in which they find themselves implicated.

While drawing on Enlightenment theory of climate as an important factor in the formation of civilizations, the eighteenth-century philosopher Johann Gottlieb Herder sought to escape the deterministic conclusion. Making a pun on the Greek verb *klinein*, he writes, "The climate does not *force* but *inclines*" ("Das Klima zwinget nicht, sondern es neiget").[16] Climate creates a cultural and anthropological disposition that influences how human beings establish their forms of life in a given location, yet it does *not* forcibly determine them. Every organism and every community has a degree of freedom within the climate she, he, or it inhabits. Herder may not have been the first thinker to observe some of the human effects on meteorological and climatic phenomena, but he was one of the first to see the relation of climate and culture as a mutual transformation: human beings are not only influenced by climate; they, in turn, actively transform landscapes and local climates.[17] Culture, in Herder's perspective, starts with elementary cultural techniques such as agriculture and canalization that profoundly change landscapes and climates:

> Once, Europe was a dank forest; and other regions . . . were the same. They are now exposed to the rays of the Sun; and the inhabitants themselves have changed with the climate. . . . We may consider mankind, therefore, as a

> band of bold though diminutive giants, gradually descending from the mountains to subjugate the earth and climates with their feeble arms. How far they are capable of going in this respect futurity will show.[18]

According to Herder's model, human cultures are in a feedback loop with climate: by changing the climate, humankind changes itself. Culture is a self-transformation through the transformation of nature, yet always inclined, bent, twisted by the gentle or brutal forces of the air. *Dwelling* in the air means coming together as living beings, being formed and transformed by weather, winds, seasons, and temperatures. Cultures, in turn, must be seen *as working the air*, transforming it into an inhabitable, productive, and even exploitable basis of life. Opposing a Kantian understanding of human culture and freedom as *freedom from the forces of nature*, such an understanding of climate offers a model of human freedom as *embedded* in its local environment. Culture's condition of possibility is this "place" marked by its air; a climatic condition can be attributed neither solely to nature nor to humans. Retrieving this mostly forgotten meaning of climate involves recalling the embeddedness of any human civilization in the place in which it dwells.

Yet *dwelling* in the climate is not the only way of being in the air. Climate, as Herder writes, "is a compound of powers and influences, to which both plants and animals contribute, and which every thing that has breath forms as an all-encompassing system."[19] Climate is thus not just a local predicament constituting a "sense of place," as Ursula Heise notes, but also a *link* between places, living beings, microclimates. Thus creating a global network of influences and differences, this "sense of place" is also a "sense of planet," a medium of relations and differences.[20] Alongside the history of air as a theory of "place" is an equally long tradition of thinking about "meteors," the emanations of air floating in the space between the earth and the moon. While "climate" indicates a locality, "meteorology," as defined by Aristotle, deals with the evanescent, unpredictable flows and dynamics of the air—such as comets, clouds, winds, hail, and thunderstorms.[21] *Meteōros* means "floating," "lofty," "raised up high." *Meteorology* thus does not look at given *states* and localities but at flows, movements, and singularities. Such are, for Aristotle, the exhalations and emanations of the air, the forms and formations hovering in it (e.g., clouds, boreal fires, rain, hail), as well as its complex dynamics. Meteors are transient mixtures of the elements fire, water, and earth with and inside the fourth element: air.[22]

The meteorological approach to the realm of the air thus focuses on the *dynamis*, the *power* or *energy* of the air, the air as the medium of movement.[23] Here, air is seen not so much as determining a specific location but as a system

of fluxes and forces, a conveyor belt of movement and transport, a medium of events. It is also the ever-moving carrier of the seeds of life. Alexander von Humboldt refers to the atmosphere as an "aerial ocean [*Luftozean*] in which we are submerged," and in his maps of the "isotherms" of 1823, he charts for the first time its thermic states as they depart from the system of geographical latitudes. For Humboldt, life floats and hovers in the air in the form of "fertilizing dust or pollen," "seeds of plants," "eggs of insects," and microorganisms.[24] Humboldt writes, "Even on the polar ice the air resounds with the cries or songs of birds, and with the hum of insects. Nor is it only the lower dense and vaporous strata of the atmosphere which are thus filled with life, but also the higher and more ethereal regions."[25]

The eighteenth and early nineteenth centuries would speak of climates as *circumfusa*: that which flows around organisms, engulfs and transports the bodies of living beings, be they plants, animals, or human beings, in an ever-moving, ever-changing medium. *Circumfusa* could be the beneficial effects of "good air" (e.g., in mountain resorts or by the coast), or it could be the deleterious emanations that bring diseases and epidemics. "The circumfuse," writes the French doctor Michel Lévy,

> (i.e. the things that surround us), represent that which Hippocrates called the airs, the waters and the places. . . . In all latitudes, human beings demarcate a space for their homes where they create a special milieu, a climate within a climate. . . . Mankind is bound to the atmosphere by these relations that are necessary, constant, uninterrupted, they are in harmony with his organization, and his living conditions.[26]

Meteorology—in this wider sense—is about the surprising bounties and unpredictable disasters brought forth by air as a system of movements and flows, of forces both merciful and destructive.

What this brief genealogy conveys is the twofold nature of air as both "climate" and "weather." A climatic understanding of air, on the one hand, involves a territorializing principle of place, of environment, of a culture's situatedness in nature and nature's gentle force within culture, a sense of seasonal cycles, of repetition and stability. Air, in this sense, is about states and conditions; it determines the quality and the many different modes of human life. On the other hand, air understood as "meteos" or weather refers to a deterritorializing principle of planetary dynamics and forces, of unsteadiness and singularity. Air, in this sense, is about events and energy, not states. Air as weather carries surprise and even disaster; it is a bearer of life or death. While air used to be understood as the

principle of dwelling and of flowing, of place and of planet, a link between all living things, today it seems to be neither of these.

The Science of Air

Today, when we talk about air, we usually talk about "the atmosphere," a term that overwrites the two opposing principles of place and planet, state and flow, in favor of a general model of "global climate." Yet this drains it of the rich ontological, social, cultural, anthropological, and aesthetic implications that *air* was heir to, in favor of a uniform, albeit immensely complex model of global meteorological processes. Never before have we had as much knowledge about its behavior, composition, and functioning as we do with modern meteorology and climatology, and never before has the air been so drained of all cultural and symbolic significance. After centuries of private and unsystematic weather observations and a long history of tacit meteorological knowledge in agriculture and seafaring, the standardized gathering of meteorological data emerged in the first half of the nineteenth century. Thus, ironically, the birth of modern meteorology and climate science coincides with the beginnings of the massive transformation of air through pollution and rising carbon dioxide emissions in the course of the Industrial Revolution.[27] The core idea of this burgeoning science was to gain, for the first time, a worldwide overview of the behavior of the atmosphere in order to understand its global dynamics and laws. While meteorology, over the course of the nineteenth century, became a panopticon of global weather data, initially intended primarily for weather forecasting, classic climatology was for a long time thought to be no more than the "book-keeping branch of meteorology."[28] Today, climate research has evolved into a comprehensive integration of the many dimensions of the earth's system of life. Current earth-system science connects the atmosphere with the understanding of ocean circulation and other climate-related systems, including the land surface, the biosphere, the cryosphere (such as glaciers, sea ice, and snow cover), the hydrosphere (lakes, rivers, evaporation, and rainfall), and soil. Yet it has preserved the original statistical and global approach modern meteorology initially brought to it. Climatology today defines climate as a meteorological average:

> Climate, in a narrow sense, is usually defined as the "average weather," or more rigorously, as the *statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years*. The classical period is 30 years, as defined by the World Meteorological Organization. These quantities are most often

> surface variables such as temperature, precipitation, and wind. Climate is, in a wider sense, the state and statistical description of the climate system.[29]

This definition aims for a systematic construction of climate as a global phenomenon. It also accounts for current climatic change by casting climate in a historical perspective, "from months to thousands or millions of years." In the effort to describe and understand global warming, today's climate sciences have constructed a planetary view of their object. Based on the global production and standardization of weather data, they seek to produce integrated models of the entire planet's life system.

Seen from this perspective, there are no such things as *climates* but only one *global climate*, globally rising temperatures and sea levels, changing water cycles and oceanic flows, and so on. This approach means, in the words of Paul Edwards,

> seeing the world as a knowable entity—a single, interconnected whole—but in a sense that lacked the secure stasis of maps, parlor globes, or pre-Darwinian cosmologies. Instead, it meant grasping the planet as a dynamic system: intricately interconnected, articulated, evolving, but ultimately fragile and vulnerable. Network, rather than hierarchy; complex, interlocking feedbacks, rather than central control; ecology, rather than resource.[30]

The interconnectedness that characterizes the earth's life system calls not only for the integration of many fields of knowledge but for an approach reaching far beyond the scale of human history and experience. While this notion of climate has helped us better understand the atmosphere's intrinsic dynamics and the human interference in it, it has also created a conception of climate that is entirely abstract, standardized, and computable. Climate has become an object outside the range of human experience, everyday life, and social and cultural practices—an external scientific object to be "observed, understood, and affected by human wastes."[31] Climate science externalizes its object by "objectifying" it into a set of laws and computable mechanisms, which in turn can be used to model its past, current, and future behavior. Its signature image, the earth as a "blue marble" seen from outer space, with the infinitely thin and vulnerable layer of atmosphere covering it, is a telling emblem of this scientific gaze from nowhere, a view from a distance, from outside—a clean epistemic cut between a human observer and nature as an observed object. This externalization of climate as an object "out there" is present even in the scientists' attempts to draw attention to the dangers of anthropogenic climate change, as climatologist Wallace Broecker's dictum articulates: "The climate system is an angry beast and we are poking it with sticks."[32] Epistemologically, Broecker's metaphor is strangely com-

forting, because it externalizes climate as an object. If climate is a "beast" we are "poking," we cannot possibly be stuck inside it. But this is, in fact, where we are.

No matter how important, even portentous, scientific *evidence*—as opposed to mere sensory *experience*—is, it comes at a price. The abstraction of climate—in terms of scale and statistics, as well as in its understanding as a "global" entity—has cut the air off from any phenomenal perceptibility, from both an individual and a collective understanding and from the culturally and regionally diverse images, narratives, dreams, observations, and cultural practices that human beings have historically used to come to terms with climate. Global temperatures, along with rising planetary carbon dioxide levels, cannot be felt or seen but only measured and computed as abstract models, broadcast through the media, and discussed as policy issues "out there." We relate to climate change mostly as externalized "facts." The air, as Irigaray points out, has been "forgotten," not just in Martin Heidegger's philosophy but generally in the descriptions of human being in the world.[33]

The fact that climate science's approach robs the atmosphere of meaning, be it individual, social, cultural, spiritual, or aesthetic, may not be the only problem. Bronislaw Szerszynski points out that, from its onset, "our reading of the weather and its 'errors' has been purified through the technological framing of atmospheric science, as it developed in the nineteenth and twentieth centuries, as sky was recoded as atmosphere, made calculable and reproducible, run in silico."[34] From being conceived of as a medium that mediates between places and spaces, nature and culture, air is reduced to mere matter, an (albeit hypercomplex) dimension of nature in need of systematic description, computation, and, ultimately, a technological solution. Atmospheric science, Szerszynski argues, has always been bound to a modernist call for the prediction and ultimately control of unruly nature. Climate science is poised not just to explain the atmosphere but to provide or suggest—in the face of danger—a technological fix:

> The diagnostic task of establishing the truth of anthropogenic climate change naturally gives way to the practical one of finding effective political and technical responses to it . . . In the face of projections of dramatic climate change, a sense of urgency (*urgere*) is growing in society and is calling forth the response of work (*ergon*): the task of turning our growing understanding of the processes of anthropogenic climate change into practical techniques for mitigating them.[35]

The way science conceives of the atmosphere and its disruption calls for a prompt and primarily technological solution in the form of climate engineering

or through the many political, economic, or individual rules and regulations to reduce emissions, conserve resources, or monetize (e.g., through carbon emissions trading) the amount of damage being done. Science questions neither the economic system that brought forth climate change nor the foundations of our modern understanding of climate and weather as something "out there."

Being in the Air

Human experience of weather and climate—of *being in the air*—is bound to a structure of space and time that is entirely different from the scientific construction of "global climate." Climate and weather shape our sense of place and of time, as in the French term *temps*, which means both "weather" and "time." Climate, just like singular weather events, can be experienced only in a given location, as the climate of Stuttgart, Santiago, Singapore, and so on. In these locations, human beings develop ways to physically, socially, and psychologically deal with their specific climatic conditions—habits, cultural practices, dress codes, architecture, urban infrastructures, and the like. What is more, human beings relate to climate as a cycle of recurring meteorological states that defines a horizon of expectation: snow in Vienna is normal in January, but in August it would be a grave meteorological aberration, an extraordinary "weather event." While climate is experienced as a temporal cycle, weather—whether "normal" or "extreme," within or outside the range of the expected—is seen as a daily singularity, an ephemeral, sometimes even memorable or traumatic event. While the global and statistical view on the climate as a planetary system has enabled us to discover climate change and its anthropogenic causes, the scientific worldview has robbed us of an experience-based approach to climate, a relation to what it means to *be in the air*.

Instead of casting climate as just one more object of scientific research, epistemologically separated from the human intellect investigating it, Timothy Morton suggests we understand global warming as a *hyperobject*, "massively distributed in time and space relative to humans."[36] Exceeding the scale of human perception, scientific understanding, and politicization, global warming challenges any metaperspective or metalanguage that could create a viewpoint of "neutral" observation or experimentation. There is no objectivating distance, and, according to Morton, no traditional scientific categories conceive of an object so extended in space, time, and complexity as climate. We are always already engulfed by it, penetrated, transcended, and transformed by it, as we transform it in turn. Air involves us with every breath and every airplane we take, with our political choices and private lifestyles. Being in the world is *being in the air*. Instead of the

distancing gaze of the climate sciences, Morton evokes eerie images of the hyperobject's "viscosity": "I do not access hyperobjects across a distance, through some transparent medium. Hyperobjects are here, right here in my social and experiential space. Like faces pressed against a window, they leer at me menacingly: their very nearness is what menaces."[37] The question is: How can we conceive of an object of knowledge in which we are always already entangled and immersed and by which we are formed, touched, and penetrated? An object that engulfs us and sticks to us? Not just because we move in it, breathe it in, dwell in it, but also because we damage it with a huge number of the practices we daily engage in. The question is also how can we understand our *being in the air* as a specific aspect of being in the world? How can we experience it so as to be able to explore and understand it in new ways?

As a complement and a critical correction to the scientific approach, we need a cultural and aesthetic approach to human (and nonhuman) *being in the air*. "Making sense of climate and its changes," Mike Hulme writes, "cannot be separated from how weather enwraps itself with landscapes, memory, the body, the imagination and routine practices in particular places. Approaching climate this way demands an explicitly geographical and cultural interrogation of how people live climatically, how they become weathered."[38] Adopting such a perspective on climate means an approach based on the analytical toolkits of the humanities and social sciences; it calls for an understanding of climate and weather not just as a natural but as a *social and cultural fact*, or, as Latour would have it, a "hybrid" of both. Beyond the unified realm of measurable data, averages, and variations provided by the natural sciences, this approach takes recourse to different and heterogeneous materials: many locally differing everyday practices, individual accounts, social institutions, objects, and architectures. It needs to include heterodox forms of knowledge about air, such as historically "outdated," indigenous, tacit, or fictional forms of making sense of *being in the air*. Aesthetic renderings or imaginative narratives and scenarios can convey a view of the air from the "inside," setting local experiences, perceptions, and practices in relation to the knowledge and the news we get about the changing global state of the atmosphere. It means focusing on the different spatialities of the air (the tension between the local and the global, the fixed and the traveling, the stable and the flowing), as well as its different temporalities (the cyclical and the linear, the expectation and the event, the repetition and the singularity). Instead of merely casting the air as an object of science, we need to understand its resistance to a distancing and objectifying take, its stickiness that always already implies and engulfs the observer.

A cultural approach to air also recovers the phenomenological dimension of *being in the air*, the ways human beings perceive and handle air as a medium they live in and live by. The Japanese philosopher Watsuji Tetsuro is one of the few thinkers who, early in the twentieth century, attempted to describe the human relation to climate (*fu-do*; literally, "wind and earth") as an intentional experience that binds subject and object in such a way that the subject becomes aware of itself as "ex-sisting" in the climate. "The usual distinction," he writes, "between object and subject, or more particularly the distinction between 'the cold' and the 'I' independently of each other, involves a certain misunderstanding. When we feel cold, we ourselves are already in the coldness of the outside air."[39] "Ex-sisting," in a Heideggerian sense, is being out in the cold, the heat, the wind, the environments—modes of being that we cannot separate either from our individual relation to the world or from our social life-forms.[40] Watsuji emphasizes that our *being in the air* is never a solipsistic affair but a way of being together and of establishing certain forms of social life inside a given climate and weather:

> [I]n changes in the weather, we first of all apprehend changes in ourselves. This weather, too, is not experienced in isolation. It is experienced only in relation to the soil, the topographic and scenic features of a given land. A cold wind may be experienced as a mountain blast or the cold, dry wind that sweeps through Tokyo at the end of the winter. The spring breeze may be one which blows off cherry blossoms or which caresses the waves. So, too, the heat of summer may be of the kind to wither rich verdure or to entice children to play merrily in the sea. As we find our gladdened or pained selves in a wind that scatters the cherry blossoms, so do we apprehend our wilting selves in the very heat of summer that scorches down on plants and trees in a spell of dry weather. In other words, we find ourselves—ourselves as an element in the "mutual relationship"—in "climate."[41]

An apprehension of *being in the air* thus means a heightened sense not just of our "environments," be they natural, social, urban, cultural, and so on; it actually means going beyond the divide between organism and environment toward a consciousness of our exchanges with it—the ways we breathe it, feel it on our skin, sweat and shiver, notice the smells and changes of the seasons. What Watsuji's phenomenology of climate points to is the way we are (and are who we are) only *in* this air—in our self-apprehension as individuals, as societies, and as cultures inside a climate. Watsuji develops a theory of cultures based on their being in different types of landscape, weather, and forms of livelihood. But what is more important is the understanding of being *in* a climate as being immersed in a field

of flowing, shifting perceptions. As we notice our being "outside and inside," we *notice our noticing* as an exposure to an open world: as the perception of wind, chill, moisture, breath, the smells and texture of the air, a world that is both ever-shifting and changing, in flux, but also situated, grounded and grounding, and repetitive.

Explications of Air

A phenomenological approach means to conceive of the air not as an object distinct from its observer but as something in-between, connecting and encompassing, entering and exiting any living beings. As the medium we live in, air is constantly constituted anew, just like the social or natural atmospheres that can emerge and fade spontaneously. Tim Ingold writes,

> It is a world, that is, of formative and transformative processes. If such processes are of the essence of perception, then they are also of the essence of what is perceived. To understand how people can inhabit this world means attending to the dynamic processes of world formation in which both perceivers and the phenomena they perceive are necessarily immersed. And to achieve this we must shift our attention from the congealed substances of the world, and the solid surfaces they present, to the media in which they take shape, and in which they may also be dissolved. My contention is that it is in the medium . . . that "most of the action is."[42]

If air is, as Ingold says, a medium of perception, of transformation and becoming, it is so paradoxically by being weightless, invisible, imperceptible. This definition of *air* calls for a shift of perspective, toward the medium itself and the specific "action" going on in it. However, just as any other medium, air remains in the background of our perception as long as it functions without disruption or corruption. Air may be, as Ingold writes, a medium with some "action" in it, yet the "actions" of the air are usually perceived as disruptions or disturbances (storms, rain, "bad air," etc.). As soon as it steps to the foreground, life itself becomes conscious of the medium or is critically threatened. Its very mediality seems to hinge on the air remaining in the background, which, Peter Sloterdijk writes, "only breaks its silence when foreground processes exceed its burdening capacity. How many real ecological and military disasters were needed before it could be said with juristic, physical and atmotechnic precision how one can set up humanely breathable air environments?"[43] With pollution, changing weather patterns, extreme weather events, changes in local climates, water cycles, and other consequences of global warming, the silent, imperceptible background has come to the fore,

demanding attention and concern—scientific, social, and political.

It may well be that the only way to relate to a medium is from the vantage point of its disruption. Thinking today about the air means thinking about its disruption, its "global weirding," which—for the time being—remains mostly imperceptible, covered up by its immense resilience. Sloterdijk refers to the "disconcealing" (a Heideggerian *Entbergung*) of the background as an "explication" (*Explikation*). One may understand such a media analysis as an act of "retrieving" the forgotten (as Irigaray suggests) or a form of "recognition," as Amitav Ghosh has recently suggested:

> A moment of recognition occurs when a prior awareness flashes before us, effecting an instant change in our understanding of that which is beheld. Yet this flash cannot appear spontaneously; it cannot disclose itself except in the presence of its lost other. The knowledge that results from recognition, then, is not of the same kind as the discovery of something new: it arises rather from a renewed reckoning with a potentiality that lies within oneself.[44]

Retrieving the possibility of a relation to air (Irigaray), recognition (Ghosh), or explication (Sloterdijk) of the air as a medium of life means to bring it from a state of latency into manifestation—yet without externalizing it into pure matter or just another scientific object. In the modern age, the air has been made "explicit" by being artificially altered, disrupted, destroyed, or, for that matter, technically reconstructed. Disrupted, for example, by poisoning or polluting breathable air; reconstructed by creating closed, climate-controlled atmospheres in hothouses or shopping malls.[45] Air conditioning, chemical warfare, artificial biospheres, domed cities, and even terraforming and climate engineering can thus be seen as more or less destructive, more or less phantasmatic and utopian processes of exploring and "explicating" the mediality of air by altering, reconstructing, artificially creating, or interfering with it. Atmospheres, Sloterdijk argues, "had to become unbreathable for people to learn to recognize themselves as guardians, reconstructors or reinventors of what had merely been taken for granted."[46] We have learned to understand and conceptualize the functions of air precisely by disrupting it.

The global-scale experiment of anthropogenic climate change and environmental crisis that has come to be called the "Anthropocene" can be seen as such an "explication" taken to the extreme. By altering the composition and the flow systems of air and water, humankind has ultimately engaged in the *total explication of air* as the medium of life. This explication alters places and biotopes but also global atmospheric and oceanic flows. The Anthropocene can be understood as an (unwitting and uncontrollable) act of testing the limits of the air's mediality.

How long will air endure the alteration of its complex yet seemingly infinitely resilient nature? At what point will the medium of life cease to be one? Or of what kind of life? If modern climate science, as Szerszynski suggests, is part of that same project of total explication, so are the more or less utopian or pragmatic "techno-fixes" intent on mitigating the results of anthropogenic climate change. Through this explication, human beings go on casting themselves as masters and stewards of nature, adjusting their iron grip on nature in the name of "sustainability," "green economy," "climate mitigation," a "good Anthropocene," and so on.[47] The Anthropocene here is seen as fulfilling or transcending the elementary gesture of modernity: to assert human freedom as domination over or as liberation from the constraints of nature, yet with a certain "respect" for Mother Nature. Seen this way, air is no more than another object in need of human "care" (*Sorge*, in Heidegger's sense)—in need of control, repair, and reform.

Aesthesis

Since we are always already stuck in this process of explication, we might as well give it a different twist. A twist not so much from a perspective of distance and objectification, of disruption and reconstruction, but from "the inside," as it were. If air acts as a medium, both binding the living to a place and dislocating life by its flows, emanations, and forces, an explication of these opposed yet complementary characteristics of air's activities would mean developing a sensorium for the places and the fluxes in which we are always already caught up.

While one version of "explication," according to Sloterdijk, is the disruption of a medium, a different form of rendering manifest the latent, immaterial character of air would involve working precisely with its elemental nature *as a medium*. Essentially this would mean adopting an *aesthetic* approach to it. This aesthetic approach would have to tackle both aspects of the air: as a medium of sustenance and place (climate) and as a medium of dislocation, of transport and contact (meteors). An aesthetics of air would, however, have less to do with ways of producing, understanding, and judging works of art or ways of transforming air into an object of art. It would not mean to make "air" or "climate" into a mere aesthetic *subject* as in "climate fiction" or certain forms of "Anthropocene art," designed to raise awareness of climate change.[48] An *aesthetics of air* must first render air *sensible* by being an *aesthesis* of air.

Aisthēsis (from the Greek *aisthanomai*, "to perceive") is an elementary way of intimately relating to all perceptional dimensions of an object: visual, aural, tactile, olfactory, even gustatory. An aesthesis of air means exploring it in all its sensory qualities—from its (in)visibility and its tactile states (e.g., temperature, humidity,

movement), to its inner dynamics (e.g., winds, drafts, updraft, density) and maybe even the affective qualities of certain weather conditions. It would entail a sense of place and season, of the natural, urban, and social atmospheres in which we are situated. An aesthesis of air means bringing air (back) to the foreground of our perception as both object and condition of perception.

One way of developing such an aesthesis would be by sharpening our understanding of our physical and cultural exchanges with air, as the phenomenological approach of Watsuji or Ingold suggests. The German philosopher Gernot Böhme calls for such an aesthesis of atmospheres, suspending the dichotomy of a perceiving subject and an externalized object of perception and judgment.[49] Following up on Böhme's aesthetics of atmosphere would mean thinking about how the air shapes not just the places we live but also our sense of time—from the affective impacts of the seasons to the epistemic vertigo facing the scales of geological deep time.[50] Another strategy for such an aesthesis would be by rediscovering the many historical and local forms in which human beings have related to the conditions and changes of air, ranging from seemingly obsolete or heterodox forms of knowledge to representations, narrations, and imagery related to air, from weather rituals and prayers to vernacular architecture. Finally, perhaps the most radical way of developing an aesthesis of air is through art. All too often misunderstood as being assigned the task of raising public awareness of global warming as if it were the public relations branch of climate science, art could, at its best, offer an experimental exploration of air—an explication that explores without disrupting its object and highlights its involvement with human and nonhuman forms of life and movement. From J.M.W. Turner's airscapes of steam and smoke during the Industrial Revolution to Olafur Eliasson's re-creation of "natural" spaces and weathers, from Philippe Rahm's artificial climates to the explorations of air flows in Tomas Saraceno's *Aerocene* project, art has already embarked on an aesthesis of the air in the times of its disruption.[51] Such an alternative explication may render the states and dynamics of air available to human experience and help us renew the cultural and phenomenological relation to it. Regaining an aesthesis of the air might enable us to become sensible to our being as being in the air.

Notes

1. Jorge Otero-Pailos, "The Ambivalence of Smoke: Pollution and Modern Architectural Historiography," *Grey Room* 44 (2011): 90–113.

2. Bruno Latour, "Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern," *Critical Inquiry* 30 (Winter 2004): 225–48.

3. Throughout this article, I mostly treat the term *air* as a synonym for *atmosphere*, *climate*, and occasionally the varying states of the atmosphere (i.e., *weather*). While in other contexts it is important to analytically distinguish these terms, historically the term *air* has been used to cover all the phenomena related to the behavior, states, and effects of the atmosphere.

4. Bruno Latour, "Waiting for Gaia: Composing the Common World through Arts and Politics" (lecture at the French Institute, London, November 2011), 8, http://www.bruno-latour.fr/sites/default/files/124-GAIA-LONDON-SPEAP_0.pdf.

5. Jim Dator, "Assuming 'Responsibility for Our Rose,'" in *Environmental Values in a Globalizing World: Nature, Justice and Governance*, ed. Jouni Paavola and Ian Lowe (New York: Routledge, 2005), 215–16.

6. Steven Connor, *The Matter of Air: Science and Art of the Ethereal* (London: Reaktion Books, 2010), 30; emphasis added.

7. Luce Irigaray, *The Forgetting of Air in Martin Heidegger*, trans. Mary Beth Mader (Austin: University of Texas Press, 1999), 8. The text was originally published in 1983 in French.

8. S.v. "medium," *Merriam-Webster*, http://merriam-webster.com.

9. John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (Chicago: University of Chicago Press, 2015), 2.

10. David Macauley, *Elemental Philosophy: Earth, Air, Fire and Water as Environmental Ideas* (New York: SUNY Press, 2010), 333.

11. Emanuele Coccia, *The Life of Plants: A Metaphysics of Mixture*, trans. Dylan J. Montanari (Cambridge, UK: Polity Press, 2018), 27.

12. Macauley; and Jeffrey Jerome Cohen and Lowell Duckert, *Elemental Ecocriticism: Thinking with Earth, Air, Water, and Fire*, ed. Jeffrey Jerome Cohen and Lowell Duckert (Minneapolis: University of Minnesota Press, 2015).

13. Hippocrates, "Airs, Waters, and Places," in *Hippocratic Writings*, trans. J. Chadwick and W. Mann (Harmondsworth, UK: Penguin, 1978), 148.

14. The best-known expression of this line of thought is included in "Of Laws as Relative to the Nature of the Climate," book 14 of Montesquieu's *The Spirits of the Laws* (1748).

15. See Robert Burton, *The Anatomy of Melancholy* (Philadelphia: Claxton, 1838), 155–58.

16. Johann Gottlieb Herder, *Outlines of a Philosophy of the History of Man*, trans. T. Churchill (London, 1800), 176; and Johann Gottlieb Herder, *Werke*, vol. 3, *Ideen zu einer Philosophie der Geschichte der Menschheit*, ed. Wolfgang Proß (Munich/Vienna: Hanser, 2003), pt. 1, 244.

17. A treatise from the seventeenth century points out the human origin of air pollution. See John Evelyn, *Fumifugium, or, the Inconveniencie of the Aer and Smoak of London Dissipated: Together with Some Remedies Humbly Proposed* (London: W. Godbid for Gabriel Bedel and Thomas Collins, 1661).

18. Herder, *Outlines*, 176.

19. Herder, *Outlines*, 176; translation amended.

20. Ursula Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (Oxford, UK: Oxford University Press, 2008).

21. See Aristotle, *Meteorologica*, trans. E.W. Webster, in *The Works of Aristotle*, vol. 3 (Oxford, UK: Clarendon, 1931).

22. See Vladimir Jankovic, *Reading the Skies* (Chicago: University of Chicago Press, 2001), 16.

23. Gaston Bachelard elaborates this aspect—the images and imaginations of movement, of rise and fall within the air—as the core of our dreams, metaphors, and fictions of air. Gaston Bachelard, *Air and Dreams: An Essay on the Imagination of Movement*, trans. Edith R. Farrell and C. Frederick

Farrell (Dallas: Dallas Institute of Humanities and Culture, 1988).

24. Alexander von Humboldt, "Physiognomy of Plants," in *Aspects of Nature: Different Lands and Different Climates*, trans. Elizabeth Juliana Sabine (Philadelphia: Longman, Brown, Green and Longmans, 1848), 228.

25. Humboldt, "Physiognomy of Plants," 227.

26. Michel Lévy, *Traité d'hygiène publique et privée* (1844; Paris: Ballière, 1857), 1:321.

27. See Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge, MA: MIT Press, 2010); and Spencer Weart, *The Discovery of Global Warming* (Cambridge, MA: Harvard University Press, 2008).

28. Hubert Lamb, *Climate, History and the Modern World* (New York: Routledge, 1982), 11.

29. See IPCC (Intergovernmental Panel on Climate Change), *Climate Change 2001: Third Assessment Report*, ed. J.T. Houghton et al. (Cambridge, UK: Cambridge University Press, 2001), Appendix I: Glossary; emphasis added.

30. Edwards, 2.

31. Edwards, 8.

32. Quoted from William K. Stevens, "If Climate Changes, It May Change Quickly," *New York Times*, 27 January 1998.

33. Irigaray.

34. Bronislaw Szerszynski, "Reading and Writing the Weather," *Theory, Culture and Society* 27 (2010): 22.

35. Szerszynski, 10.

36. Timothy Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013), 1.

37. Morton, 27.

38. Mike Hulme, *Weathered: Cultures of Climate* (London: Sage Publications, 2017), 57.

39. Watsuji Tetsuro, *A Climate: A Philosophical Study*, trans. Geoffrey Bownas (Tokyo: Printing Bureau, Japanese Government, 1962), 3.

40. Watsuji, 3.

41. Watsuji, 5.

42. Tim Ingold, "Earth, Sky, Wind and Weather," in *Climates and Cultures*, ed. M. Hulme, vol. 4 (London: Sage Publications, 2015), 31–32.

43. Peter Sloterdijk, *Spheres Volume III: Plural Spherology*, trans. Wieland Hoban (South Pasadena: Semiotext(e), 2016), 63.

44. Amitav Ghosh, *The Great Derangement: Climate Change and the Unthinkable* (Chicago: Chicago University Press, 2016), 4–5.

45. See Eva Horn, "Air Conditioning: Taming the Climate as a Dream of Civilization," in *Climates: Architecture and the Planetary Imaginary*, ed. James Graham (Zurich: Lars Müller, 2016), 233–42; and Laurent Stalder, "Air, Light, and Air-Conditioning," *Grey Room* 40 (Summer 2010): 84–99.

46. Sloterdijk, 63.

47. For a vocal proponent of a "good Anthropocene," see the Breakthrough Institute, http://thebreakthrough.org.

48. Heather Davis and Etienne Turpin, eds., *Art in the Anthropocene: Encounters among Aesthetics, Politics, Environments and Epistemologies* (London: Open Humanities Press, 2015).

49. Gernot Böhme, "Atmosphere as the Fundamental Concept of a New Aesthetics," *Thesis Eleven* 96 (1993): 113–26.

50. Dipesh Chakrabarty, "Anthropocene Time," *History and Theory* 57, no. 1 (March 2018): 5–32.

51. For a more extensive discussion of art as a way of explicating the air, see Eva Horn, "Aesthetics of the Air: Tomás Saraceno's *Aerocene*," in *Tomás Saraceno: The Aerocene Project* (Milan: Skira 2018), 19–30.