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Space and Measure: The Appropriation of Space from an Oikological Viewpoint

Espacio y medida: la apropiación del espacio desde un punto de vista oikológico

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Abstract

In this essay I propose to develop the problem of the appropriation of space through measurement from a perspective that relates the oikological philosophy of H.R. Sepp to the contributions of the phenomenological tradition -primarily, the thought of Husserl- and the theory of space developed by Deleuze & Guattari in Mille Plateaux; with them, also, we will recover some elements of the theory of measure developed by Alexius Meinong. In that broad context, my proposal is to understand the process of appropriation of the world, leading to the development of private property and state institutionality, as part of the more general process of objectification of the lifeworld through idealization (where geometry plays a central role). The logic of the measure, for its part, reveals an intrinsic tendency to excess that turns it into a means and expression of a colonizing violence. The argument will be organized as follows. First, I will present the central ideas of Sepp's interpretation of measure, with special emphasis on its bodily basis. Next, I will study how measurement makes

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possible the objectification of the world by virtue of the quantification of the primary and secondary qualities of material things, through direct and indirect measuring. Finally, it will be seen how objectified space interacts with territory through the distinction between smooth and striated space. In conceptual terms, I argue for a redefinition of measure that rejects the hylomorphic model in favor of a nomadic and morphological conceptuality.

Keywords: Measure. Oikology. Space. Property.

Resumen

En este ensayo me propongo desarrollar cómo la medida posibilita la apropiación del espacio desde una perspectiva que relaciona la oikología filosófica de H.R.Sepp con las contribuciones de la tradición fenomenológica -ante todo, el pensamiento de Husserl- y la teoría del espacio propuesta por Deleuze y Guattari en Mille Plateaux. A su vez, recuperaré algunos de los elementos de la teoría de la medida desarrollada por Alexius Meinong. En este amplio contexto, mi interés se orienta a comprender el proceso de apropiación del mundo -que culmina con el desarrollo de la propiedad privada y la institución Estatal- como parte del proceso más general de objetivación del mundo de la vida a través de la medida y su idealización (proceso en que la geometría cumple un papel destacado). La lógica de la medida, por su parte, revela una tendencia intrínseca hacia el exceso, que la vuelve un agente de la violencia colonizadora de la alteridad. La exposición seguirá la siguiente secuencia. En primer lugar, presentaré las líneas principales de la interpretación de Sepp sobre la medida, con especial énfasis en su fundamento corporal. A continuación, estudiaré cómo la medición hace posible la objetivación del mundo en función de la cuantificación de las cualidad primarias y secundarias de las cosas materiales, a través de su medida directa e indirecta. Luego, veremos cómo la objetivación del espacio entra en relación con el territorio en virtud de la distinción entre espacio liso y estriado. En términos conceptuales, finalmente, abogo por redefinir la medida en los términos de una conceptualidad nomádica y morfológica como medio para evitar los problemas a los que conduce el modelo hilomórfico.

Palabras-clave: *Medida. Oikología. Espacio. Propiedad.*

Introduction

The problem of the appropriation of space has been addressed in a central way by the tradition of thought that can be broadly called "Marxist" or, at least, that has been strongly inspired by Marx. In this context, the reference work for thinking about the commoditization of space is, without a doubt, Henri Lefebvre's *Production de l´espace* (1974). However, I do not intend here to delve directly into this line of analysis but rather to focus on certain processes that, I understand, are presupposed by the mercantile appropriation of space but which, nevertheless, have been largely overlooked by the economic approach to space. In particular, I will be concerned with presenting the way in which the measure of space generates the conditions for its appropriation. In order to do that, I propose to approach the subject from a perspective that combines the contributions of Hans Rainer Sepp's oikological philosophy and its antecedents in the phenomenological tradition –represented, above all, by Edmund Husserl– with the contribution made by Gilles Deleuze and Felix Guattari to space theory. These approaches highlight, from different points of view, the fact that the act of measure has profound implications for the ontology of space. In particular, I will try to show how the measure constitutes an essential first step in the commodification of the dwelling space. That is, by the act of measure – a type of praxis rooted in the lifeworld– the originary space in which we dwell can be transformed into private property and consequently exchanged like any other commodity.

However, the idealization of the world begins long before capitalism, with the furrow drawn on the soil with the plough, and culminates with the homogenization of space by virtue of the mathematization of nature operated by modern science. The dwelling space taken concretely as a territory is characterized by qualitative differences that "mark" the space following the traces of its materiality –the course of a river, the edge of a forest, the height of the mountains, etc. These "events" or "haecceities" immanently delimit space and establish differential relations among themselves –which, as we shall see, express intensive "distances" between the terms. Now, the act of measuring implies superimposing on this intuitive spatiality a "transcendent dimension" that makes use of mathematical notions in order to operate. Consequently, the spatiality defined by intensive distances is covered by an abstract system of coordinates, by virtue of which the space is homogenized and the "distances" converted into extensive differences that can be quantitatively determined. This process of the quantification and homogenization of space, together with the emergence of private property, allows space to be assigned a monetary value (a price) and thus establishes the conditions for the general commodification of the world. The argument will be organized as follows. First, I will present the central ideas of Sepp's interpretation of measure, with special emphasis on the relation of measure to the development of property. Next, we will study how measure makes possible the objectification of the world by virtue of the quantification of the primary and secondary qualities of material things. Finally, we will see how objectified space interacts with territory through the distinction between smooth and striated space.

1. Measure, corporeality and property

The analysis of measure constitutes a central element of Sepp's oikological philosophy, for which: "Putting the taking-of-measures [*Maß-Nahmen*] to work and shaping measurement constitute fundamental problems of an oikological philosophy" (Sepp, 2014a, p. 71). In particular, Sepp´s interpretation of measure is inspired by the following passage from Hölderling´s hymn "*In lieblicher Bläue…*": "*Giebt es auf Erden ein*

Maaß? Es giebt keines".[1] This sentence does not mean that, in effect, there is literally no measure on Earth, because it is a matter of fact that at every moment we are confronted with measure and make use of it but, rather, that no measure on Earth exists in a definitive way as if it were engraved on the Earth itself (Sepp, 2014a, p. 70). Human measure is relative and limited; however, in its very formulation there lies the intention of making it eternal and immutable. That is, measure is defined by the tension between its relativity and partial existence and the intention of its becoming absolute. The house settlement is no exception to this logic of measure insofar it is established on the basis of a mark on the Earth –real or imaginary– that delimits the interior space of the house from the exteriority of the outside world. Every house, and, in general, every homeworld, is subject to the same tendency of measure to absolutize itself and "colonize" alien worlds (Sepp, 2014 b, p. 74).

The measurement of space, for its part, implies an articulation between the imagination, which creates and configures reality, and reality itself, which contributes to the art of measuring the concrete shapes that prefigure its operation –in the same way that, for Husserl, the "imperfect" shapes of perceptual objects constitute the genetic antecedent of the "limit-shapes" of geometry (Husserl, 1976, p. 37). In the same vein, the measuring of space constitutes, together with the development of the ideal forms of geometry, a condition for the idealization of the dwelling space. This is because, the art of measuring –as a praxis in the lifeworld– makes it possible to give objectivity to experience, by making possible its intersubjective reproducibility (Husserl, 1976, p. 28). It follows that, this empirical praxis is the first attempt to reach an objective knowledge of the world and, therefore, a nascent theoretical interest in the lifeworld (Husserl, 1976, p. 25). In this sense, Husserl claims that geometry as theoretical science is a development of practical surveying (1976, p. 49). But with the theoretical interest comes the search for an idealization of the intuitive world, always relative and subjective. This process consists in a mathematization of the world, which ultimately leads to the substruction of perceptual objects by abstract representations as carried out by modern physics.

As we can see, and although measure constitutes a necessary instrument for the quantification of nature, it itself recognizes its genesis in the lifeworld, insofar as it is a type of praxis. If we take a classical definition of the act of measuring, such as that developed by Alexius Meinong in *Über die Bedeutung des Weberschen Gesetzes: Beiträge zur Psychologie des Vergleichens und Messens* (1896) –a text to which we will return later–, measure is a type of comparison between parts. Comparison, in turn, is an action that culminates in a judgment regarding the similarity or dissimilarity of the elements under consideration, so that the compared elements are ordered according to a relationship ("equal, greater or lesser"). Now, for measure to achieve the objectivity indicated by Husserl –that is, for anyone to be able to reach the same results independently of the circumstances– it is necessary for one of the elements of the comparison to remain constant. Hence the need to develop intersubjective units of measure, which makes it possible to achieve objective results. It should not be surprising that these constant elements have been sought first of all in the human body itself.[2] However, the "material" counterpart as a comparative basis for the units of measurement has tended to disappear in line with the process of abstraction associated with the mathematization of nature.[3]

[1] "Is there measure on earth? There is none".

[2] Anthropometric units of measurement such as the "foot", which determines its length precisely in relation to the average length of the human foot, were already used in ancient Greece, Rome or China. The same can be said of the "inch", which extension is determined in relation to the length of the distal phalanx of the thumb. This link is even clearer in Spanish, where the word "pulgada" is directly associated with the thumb ("pulgar").

[3] The "standard kilo", for instance, which value was originally paired to the mass of a liter of water and its prototype preserved as a piece of platinum and iridium in the *Bureau international des poids et mesures*, was replaced in 2019 by a formula based on the Planck constant.

But beyond the role of the body as a material object in the genesis of the unit of measure, oikoloical thinking recognizes a foundational relationship between the genesis of corporeality and the mundane act of measurimg. This relationship is at the basis of the tendency to absolutization that, according to Sepp, characterizes measure on Earth. In order to understand this, therefore, we must present in brief some nodal aspects of the oikological analysis of the genesis of corporeality. In this light, life is essentially tensioned by the difference between the intention, its fulfillment and the constant desire [*Begehren*] for this fulfillment to take place. This tension is expressed in the fact that life permanently transcends its place in the world (Sepp, 2014b, p. 73). Thus, human life is embedded in a tensional order between individual existence, which comes into the world at birth, and a pre-existing social order –a given *oikos*–, in which the human individual must insert himself in order to survive. The agency of such intertwining is the body itself which, is, therefore, both an individual and a collective matter. In this way, the body is always located between the individual existence and community life, or, expressed more generally, it is the medium [*Medialen*] of being-in-the-world (Sepp, 2017, p. 24).

In the primal experience of the body –which is, concomitantly, a way in which the world presents itself–, Sepp highlights the absolute limitation that the materiality of the world represents for the movement of life. And since the world is given as an uncrossable border –that is to say, it is given as a "real" in the Lacanian sense of the concept (Sepp, 2017, p. 25)–, the corporeality that is at its base is presented as a "border-body" [*Grenzlieb*]. By emphasizing impenetrability and resistance as characteristic features of materiality, Sepp draws attention to a theme absent from Husserlian analysis. That is, with the reduction of *hyle* to sensation, Husserl has given an in-depth description of the passive framework that pre-delineates the donation of meaning, but by considering matter only in its immanent aspect, he has overlooked its dimension of resistance, which always implies a relation to transcendence. In this sense, the border-body traces the first absolute boundary separating a "proto-inside" [*Proto-Innen*] from an "outside".

The experience of material resistance takes place in the border zone between the inside and the outside of the body: the skin. Through the skin, then, life is able to feel both the sensory capacity of the body and the limit that the outside imposes on it. Life thereby gains a first certainty regarding its mundane existence and the intrinsic limits that its implies; it also gains a primitive form of localization prior to the "here" (Sepp, 2017, p. 27). Now then, in the limit imposed on life by matter, there resides an "original violence" [*Ur-Gewalt*] that is experienced as a verification of the finitude prior to meaning (Sepp, 2017, p. 27). The reverse of this process consists in the articulation of the real as an original spatiality and temporality. Sepp writes: "The constitution of the external real space takes place on the limit of my skin" (Sepp, 2017, p. 28). The "real space" [*Realraum*] thus constituted implies a first distinction between the "here" of the body and the "there" of the world and, with it, distance [*Distanz*] is introduced into space (Sepp, 2017, p. 31). Between the inside of the body and the outside that appears as resistance, the body becomes an "eccentric center," insofar as human existence not only lives the positionality of its center –the absolute here– but is also oriented out of itself toward the intended world. As a consequence of this process, corporeality acquires a new dimension as a "direction-body" [*Richtungleib*] and existence finds an anchorage in space. Life thereby acquires positioning, orientation and perspectivity. While the first refers to the bodily place in its dynamic power –its ability to move in space–, "orientation" refers to the location within a system of proximity and remoteness, while "perspectivity" indicates the direction from which the body perceives; i.e., a place from which it sees, touches, listens, etc. (Sepp, 2017, p. 31).

In accordance with the dynamic that genetic unfolding entails for Sepp, the direction-body not only presupposes the border-body but also constitutes a reaction to the experience of one's own finitude implied by the resistance of the real. In response to that original violence, a counter-violence [*Gegengewalt*] is generated that seeks to counteract finitude by intensifying the power of action. Life, then, expands and reacts to the affront inflicted by its own finitude by seeking to appropriate everything within its reach. The desire that drives it pursues the aim of making itself master of its existence while being incapable, however, of exercising lordship over its own desire (2017, p. 32). Consequently, life responds to the violence of resistance of the world with the violence of an action that develops as a realization of power. In this one-dimensionality of desire, Sepp finds the traits of magical action, associated with immediate discharge and the search for instant gratification.

However, the resistance opposed by the real persists no matter how intense the reaction, and life is returned each time to its finite existence. Faced with the failure of the claim to satisfaction without delay, life seeks a solution in the sublimation of its claim to power. (Sepp, 2017, p. 34). And since the impediment of satisfaction demands understanding, the straight line of the magical attitude bends and draws a circle around itself that delimits a realm of meaning: a terrain. This last dimension of the body, associated with the constitution of meaning (and consequently called "sense-body" [*Sinnleib*]), also corresponds to a type of violence, although one that is devoid of the direct unleashing that characterizes the physical violence associated with the direction-body. An indirect and sublimated, but potentially more effective, violence: the violence of theory. That is, sublimation does not restrict physical violence *per se* but can, eventually, lead to its perfection, through the technification of the means of exercising it. Now, if the measure tends by nature to be absolutized and houses, in principle, the germ of violence, the encounter between homeworlds is always threatened by colonizing violence (Sepp, 2014b, p. 74).

At this point, if we return to the analysis of measure, we will see that, as a praxis rooted in the lifeworld, it is indissolubly associated with the dynamics of corporeality and their intrinsic violence. We have seen that before the development of the unit of measurement, measure is associated with the delimitation of a dwelling place; that is to say, the limit that separates the house from the outside world. By so doing, measure defines the field of validity of an institution of meaning in the lifeworld. Although the limits drawn are always arbitrary, once defined they become fixed and, as Remus will eventually prove, impassable. In genetic terms, then, Sepp associates the measure with the sedentary becoming of man and the concomitant need to define a space for the settlement of the city. Within the limits of the *oikos*, space becomes possession and possession, in turn, makes it possible to convert the place into property and to develop the means of preserving and defending it. In this sense, the measure "also transforms the structure of power and desire" (Sepp, 2014a, p. 72). Sedentarism, on the other hand, pursues the search for stability through the development of laws and measures, fundamental to the functioning of city life. In this sense, sedentary life should lead to the domestication of the brutality that would characterize hunter-gatherer communities. That is, the magical discharge of tension, which pursues immediate satisfaction (here and now), is the backbone of the primitive violence that sedentary becoming seeks to contain.

However, as a matter of fact, sedentarism, rather than eliminating violence, subordinates it to a system of rules that regulate the satisfaction of desire. Sublimation does not eliminate violence but only postpones it. Consequently, time and space expand and, with them, not only is violence mediatized, but the concern for the security of one's own life –now understood as possession– extends into the future and encompasses all the entities that constitute private property (ourselves included). The permanent burden of

protecting life, for its part, creates a continuous instability and is associated with "a metaphysics of angst "(Sepp, 2014a, p. 75), manifested in the very concrete fear of losing possessions. The right to property, therefore, is the safeguard against angst and exhibits, above all, the fear of the presence of the other. Life, which draws measures and establishes limits on the Earth in order to obtain a field of action that guarantees the movement of desire, is forced to permanently extend its boundaries in the face of the danger that the other represents to its own preservation –and to that of its properties. As Hobbes rightly points out, guaranteeing security implies seeking the increase of power and this means, in the last instance, pursuing the subjugation of otherness. This results in the extension of measure itself until it covers everything. Thus, a new paradox is formed: measure, intended, in the first place, to open up a space for life, ends up enclosing it within its own limits by virtue of the projection of its own egoity to the totality. Now, if measure sought to stabilize life and protect it, it is clear that its inherent tendency to overstepping [*überschreiten*] constantly introduces new reasons for instability. Measure tends to excess [*Übermaß*] because life desires all the things it can appropriate, overstepping its own limits and widening the scope of possessions to be defended. In return, new measures are put in place and the circle between the longing for stability and overreaching spirals, multiplying the causes of the violence that measure sought to limit.

2. Direct and indirect measure

As Lefebvre notes, the commodification of the lifeworld presupposes a profound transformation in the ontology of space. In his terms, space is shaped by the distinction between the "works" that constitute the natural world and the "products" that are obtained through human labor. While the former are "created" as "unique" things, in the sense that each entity is particular despite being analyzable according to genus and species –each tree is a particular tree and each rose is a particular rose, etc.–, products are the result of the "elaboration" of the natural thing through human labor (Lefebvre, 1991, p. 70-1). And insofar as the products are intended to be exchanged for other entities of the same type, they must be comparable to each other. That is, products must have a common measure that allows them to be compared; that is to say, each product must have an "exchange value", that in the capitalist economy is expressed in money (Lefebvre, 1991, p. 337). Hence the production of space entails the replacement of the uniqueness of the world by abstract entities that are mounted on the former but mask their origin:

> Things lie, and when, having become commodities, they lie in order to conceal their origin, namely social labour, they tend to set themselves up as absolutes. Products and the circuits they establish (in space) are fetishized and so become more "real" than reality itself –that is, than productive activity itself, which they thus take over (Lefebvre, 1991, p. 81).

In other words, the substruction of nature by a mercantilist representation of the world depends on the development of a common measure (money in this case) that makes all things comparable to each other. Universal interchangeability, in turn, depends on the homogenization of the compared elements. In this context, I understand that the capitalist monetization of the world must be understood in the light of the more general process of objectification of the lifeworld, which, according to Husserl, has its genesis in the modern mathematization of nature. As mentioned above, the objectification of the world operated by modern science depends, for Husserlian phenomenology, on a process of idealization that has its starting

point in the art of measuring. That is, the mathematization of nature is only possible if the world has been previously quantified and this, in turn, depends on measure. In *Krisis* Husserl says:

> The geometrical methodology of operatively determining some and finally all ideal shapes, beginning with basic shapes as elementary means of determination, points back to the methodology of determination by surveying and measuring in general, practiced first primitively and then as an art in the prescientific, intuitively given surrounding world (1976a, p. 24/27).[4]

As a praxis in the lifeworld, measure is applied to material things, and these, in turn, are defined by the property of being corporeal entities characterized by extension. Things in space, thus, are extension (primary quality) filled up by modifying sensuous or real qualities (secondary qualities) (Husserl, 1976a, 34). From this perspective, extension is not a real property of things (such as color, weight, or smell) but rather an essential shape of all real properties. In this sense, extension is the essential characteristic of materiality.[5] In concrete terms, however, extension is never given without sensible content because extension and content form a whole whose parts are not independent.[6] The spatial thing, therefore, is an extension fulfilled by sensible contents or "real" qualities. In this conceptual scheme, then, the idealization of the material thing must pursue two objectives: on the one hand, it must abstract shape from spatial extension and, on the other, it must assign to the qualitative contents a quantitative value. This double process implies, according to Husserl, a direct mathematization in the case of the primary qualities and an indirect one in that of the secondary qualities.

Regarding the idealization of spatial shape, Husserl points out that the extensional figure of material objects can be abstracted, giving rise to inexact shapes that admit a graduation from lesser to greater perfection (Husserl, 1976a, p. 22). That is, the shape is abstracted from the content of certain perceptually given objects, forming a series of "limit-shapes" [*Limesgestalten*] oriented towards an ideal perfection. In other words, the things of the perceptual environment present themselves with "fluctuating" properties within their generic type, so that "their identity with themselves, their selfsameness and their temporally enduring sameness, are merely approximate, as is their likeness with other things" (Husserl, 1976a, p. 22/25). From a conceptual point of view, this process entails the replacement of the vague and inexact shapes that are operative in practice for the ideal and exact concepts of geometry. Factually speaking, the replacement of spatio-temporal concrete shapes by their ideal counterpart is a gradual process undertaken over generations, beginning with Egyptian surveying and culminating with Galilean physics (Husserl, 1976a, p. 49).

The space of modern physics preserves the extensional character of the spatiality that is at its base, but disregards the qualitative properties of things. Objective space is, thus, not only abstract but also homogeneous. It is said that a space is homogeneous when any of its points are interchangeable with one another. Such interchangeability between places depends on the fact that objective space is not oriented because there is no privileged point around which an orientation can be established –whereas in the dwelling space this function of the "zero point" of orientation is performed by the lived body. Since it is

[4] In the textual quotation from Husserl, the page from the English translation is given after that of the *Husserliana* (see references).

[5] In its full concreteness the material thing is also causally determined as part of a universal causal regulation (Husserl, 1976, p. 30). However, in these analyses we will deal only with the spatial aspect of things.

[6] On various applications of the logic of the whole and the parts, see Sokolowski, 1977.

homogeneous, objective space can, in turn, be measured in an exact manner. Thus, with the objectification of space, the art of measuring enables a new kind of inductive prediction: "one can 'calculate' with compelling necessity, on the basis of given and measured events involving shapes, events which are unknown and were never accessible to direct measurement" (Husserl, 1976a, p. 31/33). As a consequence of this unlimited extension of calculus, objective space becomes infinite. From the foregoing, Husserl concludes that the mathematization of primary properties is direct, insofar as it results from the "replacement" of a concrete extension (for example, the tabletop) by its ideal shape (the rectangle).

The case of secondary qualities is different, for their mathematization cannot follow the direct path facilitated by the abstraction of the extensive shape. In this sense, Husserl points out that as long as sensible qualities present themselves gradually, it is possible to measure them even if the measure cannot be exact. That is, while it is possible to evaluate the magnitude of properties such as cold, heat, roughness or smoothness, etc., it does not seem easy to avoid the vagueness that characterizes intuitive phenomena (Husserl, 1976a, p. 32). The vagueness of such measures is, in turn, preserved in the "morphological concepts" of the natural sciences that deal with such phenomena. However, Husserl states that the inexactness and fluid spheres of application of these concepts do not constitute a reason to stigmatize them, for they may be indispensable or the only ones available in their sphere of application (Husserl, 1976b, p. 155). But it is a matter of fact that the positive sciences had to comply with the demand for accuracy derived from the mathematized metaphysics of modernity in order for their results to be considered scientific. For that reason, in its common use, the notion of measure is interpreted in exact terms, as if it could only refer to idealities (1976a, 32). Now, how is it possible to reconcile modern science's demand for accuracy with the vagueness that characterizes the measurement of sensible properties?

In this context, Deleuze & Guattari's treatment of Meinong's theory of measuring may be relevant. Of particular relevance the Weber-Fechner law, which is the case study in the above-mentioned article by Meinong, seeks to establish a correlation between two variables that the psychological study of the perception of quantities brings into play: the series of stimuli and that of perceptions. It should be noted that the nascent scientific psychology of the second half of the 19th century had a strong empirical and experimental imprint. In this context, the problem of measuring tests in the laboratory –mostly perceptual tests (visual and auditory, above all), such as those performed by Von Helmholtz or the first Wundt– took on special relevance, since the very recognition of the discipline as a science depended on the accuracy of the results. Meinong's interest in these experimental studies lies in the fact that they relate two different types of quantities: on the one hand, "divisible quantities," characterized as those that can be partitioned into other quantities of the same nature (for example, whole numbers or material and geometric extensions) and, on the other hand, "indivisible quantities" whose parts, when divided, do not have the same nature as the whole from which they come. The paradigmatic case of the latter are the physical quantities. For instance, in the perception of sound, it makes no sense to say that a strong sound is composed of weaker sounds of the same nature as the whole sound, because the parts that make up a strong sound are not other strong sounds.

If measure is a type of comparison between parts, the character of this comparison will depend on the type of quantity under consideration. Consequently, the different nature of the two kinds of quantities is manifested in the way they are measured. In the case of divisible quantities, the comparison between quantities composed of homogeneous parts is called "difference" (*Unterschied/Differenz*). In this type of measuring, the whole and the parts always retain the same nature and the parts maintain constant

differences between themselves. In contrast, relations between parts of indivisible quantities are not reducible to homogeneous units, because the parts are defined by differential relations to each other –they are actually relations. Meinong calls this type of relation between parts "dissimilarity" (*Verschiedenheit*) (Meinong, 1896, p. 85).[7] Now, if we apply this analysis to the experimental study of perception, measure must also be distributed in two series: that of the stimuli and that of the perceptions.[8] It is clear that there is an asymmetry between the accuracy that characterizes the measurement of divisible quantities, which can be decomposed into homogeneous units and converge to a zero point, and the relative nature of indivisible quantities where the distance between the values of the scale depends on the magnitude being considered. The solution that Meinong explores to give accuracy to indivisible quantities consists in relating the indivisible quantity to a quantity that does admit divisibility. The resulting procedure is a "surrogative measure" (Meinong, 1896, p. 67): a divisible quantity (e.g., the height of the mercury rod of the thermometer) is taken as a "surrogate" for an indivisible quantity (e.g., the temperature). In this way, it is possible to assign an exact value to the measure of phenomena that, in themselves, would not admit one.

Through this indirect procedure it is possible, then, to assign an exact value to the secondary properties of things. And since exactitude determines the criterion of scientificity for measure, the sensible qualities of the world will follow the same path of replacement by an ideal counterpart. Thus, sensible contents –perceptually experienced– will tend to be taken as causal expressions of abstract events of the world of shapes, whose reality is taken for granted as unquestionable. Husserl writes:

> What we experienced, in prescientific life, as colors, tones, warmth, and weight belonging to the things themselves and experienced causally as a body´s radiation of warmth which makes adjacent bodies warm, and the like, indicates in terms of physics, of course, tone-vibrations, warmth-vibrations, i.e., pure events in the world of shapes (1976a, p. 35/36).

The discipline that articulates the substitution of the intuitively experienced world by a scientific representation is, of course, geometry. This is a science that finds its origins in the measure of the lifeworld but that defines itself, as such, in terms of the change of the theoretical attitude that leads to the idealization of shapes. When this idealized thought is returned to the intuitive world –under the form of an "applied geometry"– the circle of the substruction of intuitive space is completed: the practical art of measuring,

[7] The author proposes the following example to illustrate the two types of relations that the parts maintain with the whole. If we consider the series of natural numbers {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}, we notice that while 2 is 100% greater than 1, 10 is only 10% greater than 9. That is, the relation "twice as many" only exists between 1 and 2, even when the "segment" (*Strecke*) that separates them is always equivalent to an integer in quantitative terms. But the same relation between {1, 2} and {9, 10} now considered in intensive terms yields a difference of distance (*Distanz*) varying between 100% and 10% (1896, p. 84).

[8] Let us take as an example the experimental study of the perception of weight. While, on the one hand, the series of stimuli vary according to a fixed rule (for example, 10 g are added each time), forming the "geometric progression" 10, 20, 30, etc. In this case, the difference or "segment" between the elements of the progression expresses an identical quantity. On the other hand, variations in the perception of these stimuli do not follow a homogeneous progression, because the perception of a difference in weight is relative to the magnitudes considered. Thus, an increase of 10 g on a base magnitude of 20 g could exceed the "differential threshold" and become perceptible while a similar increase on a base magnitude of 1000 g could go unnoticed. This empirical finding is the basis of the Weber-Flechner law. In other words, the psychologists note that in order to form the series of perceptions it is necessary to determine a "constant" defined by the relation between the increment and the base magnitude. This differential relation –known as "Weber's constant"– expresses the distance that must exist between the increment and the base magnitude in order to be perceptible. This variable difference between the elements entails that the series of perceptions is ordered according to an "arithmetic progression" defined by the Weber constant.

guided by idealities and the constructions ideally carried out with them, leads to the complete objectification of the concrete world of corporeal things (1976a, p. 35).

3. Measure between smooth and striated space

The distinction between divisible and non-divisible quantities not only makes possible the indirect measure of sensible contents but is also at the basis of the differentiation between the two kinds of spacialities that Deleuze & Guattari present in *Mille Plateaux*. Indeed, the authors argue that divisible quantities define metric spatial multiplicities, while non-divisible quantities delimit non-metric spatialities (1980, p. 596). On the one hand, non-metric spatialities form "smooth spaces" [*espace lisse*], characterized by openness and continuous variation. The archetype of smooth space is the sea, but other examples include terrestrial environments such as the steppe or the prairie. On the other hand, measure "striates" smooth space, delimiting it and contributing to its stabilization and homogenization. However, Deleuze & Guattari argue that, in spite of seeming to be opposing forms of space, the two spaces, in fact, only exist in combination, so that in their concrete form, the smooth and the striated spatialities designate, rather than pure shapes, forces of *territorialization* and *deterritorialization* operating in the spaces that actually exist (Deleuze & Guattari, 1980, p. 593).

In this context, it is relevant to highlight the importance that Deleuze & Guattari attribute to Husserl in their theory of space. The authors acknowledge the influence of the early Husserlian reception of the concept of multiplicity [*Mannigfaltigkeit*],[9] originally developed by the mathematician Bernhard Riemann. In particular, Deleuze & Guattari are interested in Husserl's characterization of the concept of the "whole" [*Ganze*]: a set of contents that are "enveloped" [*inbegriff*] by a unitary foundation and do not need the aid of any other content to achieve unity. The elements composing a whole of this kind are called "parts" (Husserl, 1984, p. 282). Husserl's approach explicitly seeks to resolve the return to infinity implied by a theory that requires that, in order to form a whole, the relationship between the parts and the whole be mediated by a third term: the "moment of unity" (Husserl, 1984, p. 287). That is to say, a whole is held together because its elements maintain immanent relations of foundation with each other, like the places that constitute the space considered in intensive terms. In this sense, smooth space is a "flat multiplicity" because it lacks a supplementary dimension that would act as the center and privileged perspective of the whole (Deleuze & Guattari, 1980, p. 609). Striated space, on the contrary, is organized around a transcendent element that operates as the center and foundation of the unit.

This smooth spatiality welcomes a nomadic dwelling that, rather than imposing a form on the environment (*milieu*), fits into the materiality of the world and thus adapts to its natural flows. Accordingly, the nomadic displacement is not traced on a map from one point to another but takes place in the territory itself, guided by the marks that immanently determine it: the path through the desert is indicated by the signs in the terrain –the accumulation of vegetation that indicates the presence of water, for example– and not by a route fixed in advance. These points that mark the terrain are separated by intensive distances and not by "segments" (*Strecken*) from a homogeneous and already objectified space. Thus, and contrary to the space of physics and geometry, which is already given beforehand, the parts that compose this spatiality are added one by one –as in a patchwork– and maintain reciprocal relations of grounding by means of proximity. In this sense, smooth space is constituted as if it were a tactile space (Deleuze; Guattari, 1980, p.

[9] For a detailed study of the Deleuzian reception of the concept of multiplicity in Husserl`s philosophy, see: Osswald, 2014.

474). The nomad, therefore, has a territory and follows habitual routes (1980, p. 471), but this does not imply the appropriation of space that, according to Sepp, sedentary dwelling implies. In this sense, Husserl points out that a territory is not necessarily a fixed piece of land since nomads can change their place of residence as long as they remain united in their traditions (Husserl, 2008, p. 394).

In the striated spaces, thus, shape operates as a transcendent principle of organization, so that the immanent weft that interweaves the smooth space is replaced by a geometrically defined grid. It is no accident that the empire that conquered the seas developed a system of geographical coordinates whose "absolute here" coincides with the location of the metropolis. The colonizing conquest of the sea (and all that lies on its shores) is the most complete expression of this phenomenon. In this vein, Deleuze & Guattari write: "It was at sea that smooth space was first subjugated and a model found for the laying-out and imposition of striated space, a model later put to use elsewhere." (1980, p. 599/480).[10] The coordinate system that locates its "zero point" at the Greenwich meridian thus shows two complementary aspects of striated space. On the one hand, it is a type of objective space that, unlike the space of modern physics, is centered and, therefore, tensioned by the opposition between the center and the periphery. On the other hand, it should be noted that its very constitution depends on the intervention of a state. In this context, it becomes clear how the formation of the state is intrinsically linked to the metric measurement of space and the sedentary dwelling that finds in the town its propitious means of development: a centered space that, in my local version,[11] condenses in the "town square" the meeting of state power (the town hall), economic power (the bank) and spiritual power (the church), in addition, of course, to serving as a zero point of geographical orientation. And given that the vector of colonization goes from the center to the periphery, Deleuze & Guattari affirm that *"It is the town that invents agriculture*" (Deleuze; Guattari, 1980, p. 601/481).

In line with Sepp's analysis of the conquest of alienworlds through the excess of the measure that delimits the homeworld, the border between the smooth and the striated defines, then, the point of contact between territorializing and deterritorializing powers. In concrete terms, it is in the peripheries of the big city that the "explosive misery" it spreads is accumulated, providing the substrate for the development of "war machines" that corrode the striated space of the city from the outside in: "The smooth spaces arising from the city are not only those of worldwide organization, but also of a counterattack combining the smooth and the holey and turning back against the town: sprawling, temporary, shifting shantytowns of nomads and cave dwellers, scrap metal and fabric, patchwork, to which the striations of money, work, or housing are no longer even relevant." (Deleuze; Guattari, 1980, p. 601/481) In the border zone between the "good neighborhood", where the state provides services and security, and the marginal suburb located at the very edge of the state's zone of influence, the distinction between extensional and intentional distance becomes especially relevant. That is to say that in the border between the striated and smooth space *the extensional measure tends to zero while the intensive distance tends to infinity*. In the same sense, the distance separating the center from the periphery possesses a non-reversible character: *extensionally identical, the distance from the periphery to the center is less than that separating the center from the periphery*. As we see, the intertwining of smooth and striated spaces does not merely define a border zone between two separate universes, but determines the very way in which space is concretely given. Just as the city, the archetype of striated space,

[10] In the textual quotation of Deleuze & Guattari, the page of the English translation is given after that of the French version (see references).

[11] The author refers to the prototypical way in which urban space is organized in Argentina.

can be traversed in a nomadic manner (either like the urban waste collectors, who follow the path of waste, or the *flâneur*, who does the same with bookstores, bars, etc.), the sea, a smooth space par excellence, is crisscrossed by aerial and aquatic routes, traced according to a system of coordinates.

Finally, I would like to emphasize that the treatment of space undertaken in *Mille Plateaux* is consistent with the Deleuzian effort to develop concepts that are embedded in the phenomenon under study. In this sense, Deleuze & Guattari recover the notion of "morphological essence" and point out that "It seems to us that Husserl brought thought a decisive step forward when he discovered a region of vague and material essences (in other words, essences that are vagabond, anexact and yet rigorous), distinguishing them from fixed, metric and formal, essences." (Deleuze; Guattari, 1980, p. 507/407). Morphological essences are not completely detached from the materiality that is at their base and, therefore, cannot be exact but rigorous, because, says Husserl, it is enough for the investigator of nature to use terms such as "jagged", "serrated" or "lenticulate" to become comprehensible (Husserl, 1976b, p. 155). Thus, as opposed to the hylomorphic model –which conceives shape and matter as two terms defined separately and their relationship as a modeling of matter in accordance with shape–, the morphological essence defines an intermediate space between shape and matter, "energetic and molecular", which models matter in accordance with the singularities or *haeccedities* present in it and follows its shape topologically rather than in geometrical terms (Deleuze; Guattari, 1980, p. 508). On the basis of the distinction between exact and morphological essences, Deleuze & Guattari propose the notions of "royal" and "nomadic" science. The former is associated with state power and, therefore, occupies the territory by measuring it and distributing human beings according to a sedentary model: in an enclosed space, where everyone has his or her assigned part and where the parts communicate with each other according to a previously determined codification. Nomadic science, on the other hand, makes use of morphological concepts to dwell in an open space without walls or boundaries, where the marks on the territory are traits that are "effaced and displaced with the trajectory" (Deleuze; Guattari, 1980, p. 472/381).

4. Final remarks

The oikological perspective analyzes measure in two senses which, for their part, are intimately related. On the one hand, measure is a method for the quantification of the world. To this end, it makes the invaluable contribution of the geometric idealization of shapes (making possible a direct measurement of extension) and the indirect procedures that allow the quantification of intuitive qualities (through the association of observational data with causal processes that occur on the ideal plane). On the other hand, measure is linked to the establishment of norms and rules (*Maß-Nahmen)* in the world, which organize a sphere of meaning for a given community. That is, measure makes possible the institution of an *oikos* and the delimitation of a terrain to dwell in. There is thus a genetic relationship between the furrow that marks the land and the development of a legal system that eventually leads to the institution of the state. The process of normativization of the dwelling space brought about by measure leads to the striation of space in sedentary dwelling –or, in other words, the state could never have been born of a nomadic society. However, the precise segmentation and delimitation of space, accompanied by the development of a normative system, makes it possible for the possession relationship to be transformed into a property bond legally guaranteed by the states empire of violence.

The appropriation of the world –a *sine qua non* of its commodification– is not, however, an original phenomenon but rather a reaction against the *Ur-gewalt* that the materiality of the world imposes on the unfolding of life. In this sense, the idealization of the lifeworld can be understood as a human attempt to overcome material resistance. But, as Sepp rightly points out, the sublimation of desire does not lead to the elimination of violence but only to its postponement, with the consequent technification of its means of execution. This reveals the potential for violence that resides in every theory and the threat it entails for the lifeworld. That is, the risk of covering the lifeworld, concrete and finite, with ideal entities (infinite in quantity by definition) is that a logic of limitlessness takes over the material world and compromises its subsistence. The progressive financialization of the economy can also be included in the general process of "dematerialization" of the world and the replacement of material finiteness by idealities to which an exact value (expressed in money) can be assigned.

Be that as it may, human life –corporeal and finite– depends on food, shelter, air and water for its survival. However, the object of economic calculation in the capitalist system of production is not oriented to safeguarding the future availability of these means of subsistence (objectives that an oikologically founded economy would pursue) but to the permanent increase of capital (an abstract notion essentially linked to the ideal entity *par excellence* of capitalist economy: money).[12] Thus, it is possible to affirm that the capitalist representation of the world –even more so in the financialized form of its late phase– is based on the idealization of nature, which depends, ultimately, on the quantification embodied in the act of measure. Hence the central relevance that the topic of measure has for contemporary economic debate. If, in addition, we complement these analyses with the intrinsic tendency of measure towards absolutization –the excess of all measure on earth–, it will be clear in what sense the "substruction" of the lifeworld by a theoretical representation can compromise human existence itself.

Nevertheless, as the art of measure also attests, it is possible to conceive virtuous relations between the real and the ideal level. In this context, the main thesis that orients Husserl's reflections in *Krisis* continues to be in force today; namely, that theory must not succumb to abstraction and forget its foundations in the lifeworld. Nor should we reject the abstract *per se* but only its autonomous and monstrous becoming, since the abstract sinks its roots in the concrete, and that is why the Idea is called to turn to the lifeworld in order to improve it.[13] Oikological reflection must seek, therefore, to deal with the phenomenon of measure in its complexity and to recognize, above all, the irrational impulse that dwells in it. Only through this experience of the negativity of the phenomenon is it possible to warn of the dangers it contains and to avoid the risks to which the exacerbation of its immanent tendencies leads. Such a rationality, designed to avoid the excesses to which abstraction leads, should allow itself to be guided by the singularities already present in concrete materiality and operate, accordingly, with morphological essences, rigorous though inexact. This nomadic science would then make it possible to understand that all measure on Earth is contingent and that, therefore, it must be replaced when it no longer responds to the vital needs that gave rise to it, or when it threatens to become absolute and silence all difference. The oikological genealogy would make possible, then, the recovery of the power to create new measures, that is, to define, anew and each time, the way in which we dwell in the world.

[12] For a succinct presentation of an oikologically based economy, see my essay: Osswald (in press).

[13] My proposal for the development of a green currency based on blockchain technology may be mentioned in this regard. See: Osswald, 2023.

Data availability statement

The main focus of this article is contributions of a theoretical or methodological nature, without the use of empirical data sets. Therefore, in accordance with the journal's editorial guidelines, the article is exempt from being deposited in SciELO Data.

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