

EMOTIONS, SCIENCE, AND GENERATIVITY. A HUSSERLIAN PERSPECTIVE

EMOCIONES, CIENCIA Y GENERATIVIDAD. UNA PERSPECTIVA HUSSERLIANA

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ABSTRACT: I begin by addressing certain issues from Husserl's static and genetic approaches, and then use these as *leading clues* to the generative approach as applied to Husserl's concept of science. However, in order to justify our understanding that these three approaches are inextricably intertwined and correlative, we can cite Husserl's words from the *Crisis*: "we find ourselves in a sort of circle" so that "we have no other choice than to proceed forward and backward in a zigzag pattern." Indeed, the phenomenological reduction's static approach is a *regressive* (deconstructive) inquiry into the structures, functions, and modes of subjective life, whereas the genetic/generative approaches reconstruct the *progressive* paths of the individual and collective (i.e., historical) constitutions of meanings and validities. Finally, since the cognitive, emotional, and volitional spheres of conscious life and their pre-conscious strata and functions are essentially intertwined, the role of emotions in the constitution of "epistemic values"—and "cognitive biases"—is also addressed.

KEYWORDS: Constitutive Analyses, Rational Interwovenness, Horizon, Epistemic Values, Cognitive Biases

RESUMEN: Los análisis husserlianos estáticos y genéticos de ciertos temas son primero tomados como *hilos conductores* para una aproximación generativa del concepto husserliano de ciencia. La justificación de la comprensión de las tres aproximaciones como esencialmente entrelazadas y correlativas, se inspira en las expresiones de la *Crisis* de Husserl—"nos hallamos en una suerte de círculo, y no hay otra elección que la de avanzar y retroceder en zigzag." La aproximación estática a la reducción fenomenológica

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hacia las estructuras, funciones y modo de la vida subjetiva es *regresiva* (deconstructiva); mientras que las aproximaciones genética y generativa reconstruyen las vías *progresivas* de las constituciones de sentido y validez, individuales y colectivas (*i.e.*, históricas). Finalmente, se aborda el papel de las emociones en la constitución de los “valores epistémicos”—y los “sesgos cognitivos”—debido al entrelazamiento de las esferas cognitivas, emotivas y volitivas de la vida consciente y sus estratos y funciones preconscientes.

PALABRAS CLAVE: análisis constitutivos, horizonte, entretejimiento racional, valores epistémicos, sesgos cognitivos

1. Opening remarks

The monadic ego’s personal history is revealed by Husserl’s genetic phenomenology as following a temporal path from *Affekt* to *Logos*—*i.e.*, from the deepest passive strata of sensibility to the highest, most abstract, and “objective” meaningful products of understanding. The phenomenological ego’s starting point is always the natural attitude, “objectively” directed toward the seemingly ready-made and constituted surrounding world, while the constitutive achievements from which they stem remain anonymous. After the “general thesis of the natural attitude” is neutralized with the *epochē*, the constituted (intentional) correlates play the role of *leading clues* (*Leitfäden*) for a *regressive inquiry* into the ego’s transcendental constitutive sense- and meaning-bestowing achievements. This static approach unveils the “typical” (eidetic) structures, functions, and modalities of pure consciousness (*noesis*), along with their meaningful products (*noemata*).

However, the spiritual, “active” consciousness is also an embodied ego, “localized” in a psychophysical unity that presupposes a sensuous passive stratum whereby the world is first given. Hence its “active” rational life develops from *passivity*—it results from onto- and phylogenesis. The phenomenological ego uses the already “constituted” transcendental structures exposed by the initial static approach as new *leading clues* in order to understand *how* its “active” life came to be. It then deconstructs (*abbaut*) these structures (in an “archeological descent”) to further explore the origins of its transcendental life. The *Urstufe* and *Ur-Affektion* of its pre-intentional and pre-objectifying life—a life that flows as an undifferentiated mass of primal sensations, feelings, and kinaesthesia (*Urhyle*, *Urgefühle*, *Urkinästhesie*) within a “universal horizontal life-feeling” (*Hua Mat VIII*,

362)—are thus reached and unveiled. Primal affections (*Ur-Affektionen*) of the passive ego—and the “affective allure” that external entities exert upon it—set off a series of temporal and associative reproductive processes that teleologically tend toward the unfolding of conscious and rational life in increasingly complex and differentiated syntheses.¹ By turning toward the passive processes that motivate conscious and rational objectivations, *genetic* analyses lay bare and highlight the pervasive “coloring” originated by the affections of feeling.

The phenomenological ego also realizes that the *constituted* world of the natural attitude—the world that serves as the starting point for its initial regressive inquiry into its own active transcendental life—is not entirely the result of its *own constituting* accomplishments. It becomes aware that it adopts meanings either transmitted by others *synchronously* (physically present or absent), or passed down *diachronically* from previous *generations*—meanings that are intersubjectively constituted. Thus the following tasks are, *grosso modo*, two. *First*, to clarify *how* the transcendental “communalization of experience” (*Hua VI* [1970], §47) takes place, because—“from the point of view of naïve positivity or objectivity,” namely, of the natural attitude—the interrelation of individual ego-persons in social communities appears, like the rest of the natural “pre-given world,” “in the form of mutual exteriority” (*Hua VI*, 260, 294 [1970, 257, 315]). Taking this “mutual externality” as a *leading clue*, then, the *first* task is to reveal that “when seen from the inside,” it is “an intentional mutual internality,” the product of an “inward being-for-one-another and mutual interpenetration” (*Hua VI*, 346 [1970, 298]).² And taking the history of humanity and the historical succession of generations as *leading clues*, the *second* task is “to strike through the crust of the externalized ‘historical facts’ of philosophical history” and to unveil its *historicity*—namely, its “*inner* meaning and hidden teleology” (*Hua VI*, 16 [1970, 18]). The latter is exposed as being constituted by generations of reciprocally implicated individual life-fluxes (*Hua VI*, 260 [1970, 257]) in a “hidden unity of intentional inwardness which alone constitutes the unity of history” (*Hua VI*, 74 [1970, 73]).

¹ “What we learn from genetic phenomenology and throughout” the lectures on *transcendental logic* “is that primal constitution (*Ur-Konstitution*) must presuppose a *past* temporal dimension in order for sense to be constituted in the present!” (Steinbock 1995, 155).

² Under different guises, names, and strategies (Cartesian, psychological, ontological, “and whatever other way we may wish to construct”) (*Hua Dok II/1*, 37-38 [1995, 33-34]), Husserl undertakes time and time again the difficult task of describing, within the solipsistically performed phenomenological-transcendental reduction, *how* these transcendental achievements are *intersubjectively constituted*.

While Husserl does not explicitly formulate a dimension of phenomenology as generative, it is widely acknowledged that Steinbock's assessment that "the formulation of this *<last>* dimension as generative phenomenology is not only justified, but called for" (1995, 257) based on Husserl's wide range of texts that discuss "generative problems." Steinbock's contention "that genetic phenomenology functions as a *leading clue* for generative phenomenology" (1995, 261)—hence that "eventually, the '*Ur*'-*Konstitution* peculiar to a genetic phenomenology will be ensconced within a '*Stamm*'-*Konstitution* peculiar to a generative phenomenology" (1995, 155)—is also widely admitted.

On that basis, in what follows, I will not be addressing the preferred and most discussed issues related to generative problems, either *in* Husserl's work or *after* it, such as "homeworld and alienworld, birth-death, sense-constitution through appropriation, social ethics" (Steinbock 1995, 261) and others. Instead, I briefly address them in relation to Husserl's notion of theoretical knowledge or science, despite the fragmentary character of the texts he left behind. Indeed, editing and systematic difficulties prevented Husserl from rewriting the third part of the *Crisis* and from concluding it with a fourth and fifth part, in which he planned to reconcile two different (but in his view equally urgent) problems: the teleological theme in the context of philosophy as the historical self-meditation of a responsible and ethical humanity, and the problem of the generative constitution of a theory of science (*Hua* XXIX, 341-426). I will accordingly begin by addressing certain issues from Husserl's static and genetic approaches, and then use them as *leading clues* for the *regressive* reflection into the *hidden* history of the generative constitution of science. This sequence is nevertheless neither linear nor definitive but rather reversible, inextricably intertwined, and open-ended, such that Husserl maintains that "we find ourselves in a sort of circle" and that "we have no other choice than to proceed forward and backward in a zigzag pattern" (*Hua* VI, 58-60 [1970, 58]), whereby the *regressive* inquiry proper to the reduction unveils the progressive—teleologically-driven—movement of constitution, and vice versa. Finally, my collateral interest on this occasion is to examine the role of the individual and social emotions involved in the historical constitution of the sciences and their acknowledged "epistemic values," as well as their involvement in what we usually refer to as "cognitive biases"—an issue that is also present in Thomas Kuhn's 1962 *The Structure of Scientific Revolutions*.

2. A merely logocentric interest?

Husserl struggled during more than four decades with the profound enigma of reason and rationality, from its subjective and sensuous genesis all the way to its highest and most abstract spiritual accomplishments (theoretical, axiological, practical): namely, with the strange connection between nature and spirit, and with the role that our conscious temporal body plays within it. Motivated by primary and acquired instincts (both sensuous and rational)—as well as by means of linguistic, valuing, or normative lived experiences and by goal-oriented practical activities—the surrounding world is embellished with ethical, aesthetic, personal, social, and political values, and endowed with theoretical (i.e., ideal) concepts and norms. To these processes, others are added thanks to which in communalized experiences, the varied range of meaning-nexuses are validated, discarded, and/or rectified. They are additionally involved in complex historical processes that flow, throughout the generations, over the spirit's "underlying psychic basis" (*Hua* IV [1989], Beilage XII, §§1-3), the remote origins of which are found at the pre-ego's primal levels (*Urstufe*) where no "hetero-affection" has yet taken place (*Hua* Mat VIII, 199, 335; Walton 2017, 13), nor is a world in the proper sense yet there for an *I* or a *we*.

However, Husserl's lifelong interest in the (static, genetic, and finally generative) constitution of a theory of science³ has been pervasively misunderstood during the 20th century. It has been interpreted as embedded within a desperate "logocentric," "foundationalist" endeavor to "rejuvenate" modern rationalist philosophy (Lyotard 1989, 738-750; Granel 1976, vii; Derrida 1967), or as a descriptive phenomenology affected by "Cartesian anxiety" (Bernstein 1983, 16-20) in which its theory of meaning-constitution is ruled by the "dictatorship" (even "Western paranoia") of "theoretical consciousness" and its representations—namely, where the intentionality of "objectifying acts" prevails over the dimensions of the heart (emotions and feelings) and of the will (Ricoeur 2004, 182 *passim*; Granel 1976, vii). That is why phenomenology is allegedly "mostly the history of Husserlian heresies" (Ricoeur 2004, 182 *passim*), for Husserl's work *per se* is only the enactment of "an ancient scene of an ancient

³ Since his *Logical Investigations*, and throughout the following decades, he repeatedly lectured on "Logic" and on a "General Theory of Science." Finally, his lectures around 1920/21, 1923, and 1925/26, later known as *Analyses Concerning Passive and Active Synthesis: Lectures on Transcendental Logic*, lead directly to his final formulations in *Formal and Transcendental Logic* (1929) and *Experience and Judgment* (1939).

theater" (Granel 1976, vii). This pervasive reading has been acknowledged by its leading protagonists as having been mainly influenced by Heidegger's reception of Husserl's works, and the thinkers concerned have accordingly been known as "Heidegger's children" (Wolin 2015). Nevertheless, Husserl's lifelong obsession with the teleological, historical-generative constitution of a theory of science hides a much deeper and more complex—if not paradoxical—interest: namely, to fend off skepticism, while simultaneously acknowledging the inextricable "entanglement" of every dimension of human consciousness and rationality (Aguirre 2002), hence humanity's radical existential finitude. Husserl's "reencounter with existential meditations" by the end of his life may not "have come from a very alien horizon" to his work, as Ricoeur contended, contrasting Husserl's attitude to that of existential phenomenologists, who allegedly situated themselves "from the outset" within a "direct comprehension of an embodied psyche." The latter, over and against Husserl, had allegedly contended that affectivity "intends and grasps things" without the detour through "representations" "without properly knowing," etc. (Ricoeur 2004, 18 *passim*).

My interest here is therefore to challenge this typification of Husserl's theory of science as emanating from an unfettered "logocentrism," and to examine the reach of the aforementioned intertwining of all dimensions of human experience.

3. Static considerations and evidence: The parallelism of spheres

Husserl was always convinced that at a conscious and rational level, the three subjective spheres of sense and meaning (perception, affectivity, and volition) could only be understood as essentially interwoven within a *horizontal structure*,⁴ wherein the interest of one of the spheres stands out while the others—with their respective pre-conscious depths—passively "motivate" from the background (*Hua IV* [1989], §5).⁵ Although he seemed to prioritize theoretical rationality above

⁴ In his view, the horizontal structure of consciousness embraces not only the noetic-noematic "universal *a priori* of correlation," but the temporal and communalized character of experiences, tied to kinaesthetic possibilities upon which the changes of validity pertaining to every experiential or rational evidence depend (*Hua VI* [1970], §§46-47; Walton 2015, Ch. X *passim*).

⁵ These studies began with Husserl's earliest psychological and logical works, though they have only become gradually known since the publication of his *Nachlass*.

the others (*Hua* VII, 204; *Hua* VIII, 7 [2019, 211]; *Hua* VI, 6 [1970, 8]), along with the transcendental, eidetic nature of his phenomenology as a *first* philosophy (*Hua* XVII [1978], §98; *Hua* I [1960], §34; *Hua* IX, 278-287, 295 [1997, 160-167, 174]; *Hua* V, 141-143, 149-155 [1989, 408-410, 417-422]), his project outlined not only a “universal critique of <theoretical, valuing, and practical> reason” (*Hua* III/1 [1982], §139), but also an “idea of philosophy” that, besides epistemological problems,⁶ included since 1908 metaphysical and ethical horizons that he longed to develop (*Hua Dok* III/6, 60)⁷ and that “lay closer to his heart” (*Hua Dok* III/3, 418).⁸

Thus within his research on the role of a universal *a priori* theory of science, Husserl first sought to understand the enigma of the obvious correlation and yet irreducible difference between the conceptual-*objective* order and the experiential-*subjective* order studied by psychology (*Hua* XVIII, 7 [2001, 2]; *Hua* XVII, 159 [1978, 179]). And since theoretical reason in Husserl’s view “is in itself an incomplete *ratio*,” the regressive inquiry leading him to the correlative subjective order had to include the spheres of emotion and will, which have their “own lawful and legitimate sources” (*Hua* XLII, 240ff.; Walton 2017, 8).

For a phenomenological clarification of an *a priori* theory of science, this meant the risk of descending, like Faust, into the depths that lead to the “mothers of knowledge” (*Mütter der Erkenntnis*), or to “*the mother soil (Mutterboden) of reason*” (*Hua* XXXVII, 332; *Hua* XXX, 335 [2019, 352]) where there is “nothing firm to find,” but where he hoped to “find the universe.”⁹ He later identified this “mother soil” as “potential reason” (“‘*Reason*’ in *instinct. The obscure instinct*”)

⁶ In 1914, in the draft of a letter to Karl Joël, Husserl indicated that he never meant to reduce philosophy to a “theory of knowledge and to a critique of reason in general, much less to a transcendental phenomenology” (*Hua Dok* III/6, 205).

⁷ Husserl to Hans Driesch, 18.07.1917 (*Hua Dok* III/6, 60).

⁸ Husserl to Dietrich Mahnke, 05.09.1917 (*Hua Dok* III/3, 416). He refrained from making these reflections public, and limited himself to laying their foundations by first developing his transcendental critique and theory of reason.

⁹ “Regarding these mothers, I love to turn to Mephistopheles’ words, ‘Enthroned sublime in solitude are goddesses. Around them is no place, still less any time.’ And unfortunately, it is stated no less significantly, ‘To speak of them is embarrassment.’ As you will remember, Mephistopheles is keen to dissuade the aspirant from taking the way ‘into the untrodden—the not to be trodden’ and paints the solitudes in a ghastly enough way, ‘Nothing will you see in interminably empty farness, the step you take, you will not hear, nothing firm find where you rest.’ We must, though, not allow ourselves to be frightened, and with Faust answer, ‘Just keep on, we want to fathom it. In your nothing, I hope to find the universe’” (*Hua* XXX, 335 [2019, 352]).

(*Hua* XLII, 86; Walton 2019, 4), wherein lie the “passive motivations” of the *intellectus agens*. A first step in this direction was his discovery of the “miracle of consciousness” in the “enigma of intentionality” (*Hua* XXX, 341 [2019, 360]), and its *horizontal* structure of *evidence* (intention—fulfillment) (*Hua* XVII, 207-208 [1978, 199-200]), which he first clarified at its advanced stages within the doxic level of predicative meanings, as well as at its previous stages in perception, for he deemed it “a good sphere of verification” (*Hua* VI, 465).¹⁰ However, he also delved into the emotional and practical realms: “[...] if we have, therefore, different classes of intentions, intentions of the intellect and intentions of affectivity, then we find in all the classes analogous structures and structural modifications of them. [...] There is a fulfillment of knowledge intentions, of aesthetic, moral intentions, and so forth” (*Hua* XXXV, 43; Walton 2017, 8). Thus beginning with the static period of phenomenology, Husserl believes that theoretical, valuing, and volitional reason work in harmony, all spheres having their respective modalizations of evidence (certainty, negation, success, failure, concordance, discordance).¹¹ Summing up, from the *Logical Investigations* to the unpublished manuscript of *Experience and Judgment*, *Evidenz* in Husserl’s view is “the *intentional achievement of itself-giving*” (*Hua* XVII [1978], §§59-61), whereby both sides—the “given in itself” and the consciousness to which it is *originaliter* given—are found in mutual commerce (*Hua* III/1 [1982], §147; Heffernan 2022, 17).

4. Genetic approaches: From activity to passivity and back again

4.1. *The descent to the hylē*

Static phenomenology presupposes a pre-given constituted world that already exists for the ego with its “universally familiar ontological type(s)” (*Hua* I, 110 [1960, 76]). But it is the apperceptive horizon’s constant (peripheral and temporal) overflow that finally leads Husserl from static to genetic phenomenology.

¹⁰ Evidence requires the synthesis of coincidence (identity) between the meanings of intentions and intuitions (between the latter’s substrates), and the fulfillment of the former by the latter, foreshadowed by imagination and carried out by perception.

¹¹ “The concept of evidence in the objectifying realm has its precise analogue in the sphere of non-objectifying acts” (*Hua* XXVIII, 344; *Hua* XXXVII, 229; Walton 2017, 10), with the caveat that its fulfillment in the practical sphere is not equivalent to its rational “legitimation,” for it is still in need of an axiological condition (*Hua* XXXVII, 313f.).

He first describes *genetic* phenomenology as *active genesis*, dealing with ego-acts (higher rational activities); with their correlative “*products of reason*” (such as “ideal” objects or “works of practical reason, in a maximally broad sense”); and with their relation to the “intersubjective activities” of a “transcendental intersubjectivity” (*Hua I*, 111 [1960, 77-78]). Hence it first appears within the context of a *Geltungsfundierung*. But “anything built by activity necessarily presupposes, as the lowest level, a passivity that gives something beforehand” (*Hua I*, 112 [1960, 78]). The descent from active to passive life is accordingly undertaken in search of the *ultimate genesis* or *history* of active life and its “hidden motivations” in passive processes.¹² Thus *Genesisfundierung* is the ultimate source of all validation and evidence. Haunted by these problems, Husserl now recasts his *logic* or *theory of science* as built upon the foundations of a transcendental aesthetic, as we can see in his lectures on logic of the early 1920s (see n. 4 above).

Within the framework of the reduction, and in eidetic generality, Husserl examines the *laws* that govern the passive syntheses of primal phenomena: those of *association*, and “at a lower level of pure passivity,” those of the *structural forms of immanent time*. Both are fundamental “conditions of possibility” (the “mother soil”) of a universal genetic theory of subjectivity without which the ego could neither “have the essential sense” of being “an existing subjectivity [...] constituting itself as being for itself” (with its own indefinite past and future) (*Hua XI*, 124 [2001, 169-170]), nor have the sense of the existing surrounding world. The universal synthetic structure of “internal time-consciousness,” and its laws of *succession* and *coexistence*, provide the *general formal framework* and *order* in which the material contents of hyletic associations flow, for “there is only one time in which all temporal courses of objects run their course” (*Hua XI*, 127 [2001, 172]). What distinguishes the different temporal forms in their specificity are the hyletic contents that flow within them according to the *laws of association* (syntheses of *homogeneity* and *heterogeneity*) (*Hua XI*, 129-130 [2001, 175]),¹³ the first form of which is the *affective tendency* toward new affections and toward the fusing or segregating of discrete successive or coexistent contents by degrees of *affinity* and *contrast*.

¹² The *ultimate* source of this “genetic foundation” (*Genesisfundierung*) is in turn the “pure inner living present [...], as a flowing existing present, as the absolute ground of all my validities” (*Hua Mat VIII*, 40).

¹³ The radical individuation and personal history of each transcendental subject that develops within this temporal framework stems from the associated contents.

These passive processes gradually constitute the different sensuous fields (touch, hearing, smell, sight, taste) with their temporal *localizations* (*Hua XI*, 142-145 [2001, 189-192]) as well as building the *pre-forms* of abstract, logical-conceptual, or mathematical thought. *Affection* (*Affektion*) “awakens” associations (*Hua XI*, 148-151 [2001, 196-198]) in the “impressional now”; it is itself a function of the *contrast* that stems from the “affective incitement” that an object exerts upon a conscious ego, enticing it to turn kinaesthetically “toward” it or “away from” it. Both *affections* and *affective tendencies* toward further affections depend on their initial *affective force* (*affektive Kraft*).¹⁴ At a “lower genetic level,” “functions of affectivity that are founded purely in the impressional present” and their affective force do not depend solely on the “size of the contrast” of the hyletic data. They also depend on co-original “privileged sensible feelings” or on “instinctive drives related to preferences” (*Hua XI*, 150 [2001, 198]),¹⁵ thus on co-original *Gemütsbedingungen* (*Hua XI*, 152 [2001, 200]), notwithstanding the degree of their prominence. They propagate in decreasing intensity along the chain of *retentions* until they sink into an empty undifferentiated past (*Hua XI* [2001], §35). However, they do not wholly dissipate, but remain “dormant” and may be reactivated, motivated by an undifferentiated horizontal background of *interests* in the living present (*Hua XI*, 178, 182 [2001, 228, 232]). In this manner, reproductive associations are able to reawaken the initial affections that set these contents in motion and thus become effective again (*Hua XI* [2001], §§36-39). In the opposite direction, “affective tendencies” lead toward a future horizon of new affections that prospectively propagate the initial thematic interest according to “laws of propagation” (*Hua XI*, 151 [2001, 198]). Thus *protentions* also provide primal associations with a *teleological* direction whereby they anticipate future fulfillments and thematic coincidences (*Hua XI*, 158 [2001, 206]).

4.2. *The ascent to activity*

The ego’s initial turning “toward” or “away from” the object that passively affects it evolves at a higher, active level (*Hua XI* [2001], §35) into the conscious *attention* to the same. On the other hand, the initial *affective tendency* becomes

¹⁴ The *affective force* depends first, but not solely, on favorable or unfavorable *contextual factors* such as the gradual, strong, or overlapping contrasts of hyletic data.

¹⁵ The “passionate desire (*Wollust*) founded by a prominence in its unity” is Husserl’s example from “the sphere of the heart” (*Hua XI*, 150 [2001, 198]).

an active “*intention* oriented toward it.” Further on, attention awakens the progressive and differentiated genesis of rational properties such as “*grasping, acquisition of knowledge, <and> explication*” that continue to propagate the thematic interest according to laws (*Hua XI*, 151 [2001, 198]). Husserl believes that this process is oriented toward the optimal *téλoς* of “absolute self-givenness,” which always remains an “ideal limit” (*Limes, Ideal*), for it is “only realizable in the style of relative, temporal validities, and in an infinite historical process” that is asymptotic and communalized—“but in this way it is, in fact, realizable” (*Hua V*, 139 [1989, 406]). Ignoring activity, the passive level remains indeterminate. Each ego experiences within its life a constant *zigzag* or circular flow of experiences from passivity to activity and back again, because what is consciously and rationally produced by the ego remains sedimented as a permanent acquisition in a secondary passivity that mingles with phenomena from primary passivity. Thus varied dynamic passive *processes* pre-constitute the unities that are presupposed by the higher-order objectivities dealt with by logic, such as “‘identical sense,’ ‘being’ and ‘modalities of being,’ ‘true being’ and ‘verification’” (*Hua XXXI*, 3-4 [2001, 275-276]).

I previously mentioned that the factor that triggers the “*mise-en-scène*” of activity from passivity is *attention*—a “turning toward” and “attentive grasp” of a passively pre-constituted unity that preferentially stands out, which in turn renders possible its thematization as an identical object, whereby the ego abandons passivity (*Hua XXXI*, 3-4 [2001, 275-276]). Likewise, what is pre-constituted in passivity motivates agreeable or disagreeable emotions (*Gefühle*) so that an intentionality of emotions (*Fühlen*) is also passively constituted. In this way, pre-constituted “objective” unities are *already* intermingled with positive or negative qualities that are interwoven at a higher level with the founding objective properties, thus acquiring value-properties (*Hua XXXI*, 5 [2001, 277]).¹⁶ Notwithstanding their simultaneity, the “turning toward emotion” that specifically belongs to the emotional sphere differs from the hyletic-kinaesthetic *Zuwendung* that underlies attention, which is an objectifying quality. The specific qualities related to the fulfillment of the intentionality of feeling and will are instead “striving, desiring, shunning” (*Hua XXXI*, 8-9 [2001, 280-282]).¹⁷

¹⁶ A progressive tendency to “objectify” accompanies the experiencing subject’s entire life (*Hua XXXI*, 7 [2001, 279-280]).

¹⁷ Although not every egological act (a *Gefühlsintentionalität*, a *Vorstellungsintentionalität*, etc.) is a *voluntary* act, an act of the will, Husserl remarks that the genuine concept of the *will* is a *specific type of activity* that permeates the entire life of consciousness as a “*voluntary activity*”—

In sum, the true purpose of Husserl's lectures on genetic logic from the early 1920s is to “*understand the objectivation as a genetic gradation of thematic accomplishments.*” In other words, “the progressive objectivation consists only in the fact that what was previously merely a thematic *content* now becomes a thematic *object* in a particular way” (*Hua XXXI*, 68 [2001, 339], my italics). The “matter” of passivity is only the partially coincident *sense unity*, progressively enriched thanks to temporal syntheses of expansion connected within “the unity of a general interest.” On the other hand, the “matter” of activity is the thematization of a content as an *object* thanks to the “activity of judgments,” and finally, *conceptualization* is possible, thanks to “the function that constitutes the universal for us” (*Hua XXXI*, 69 [2001, 340]). Thus genetic phenomenology renders an account of *how* objectivities of a higher order (universal notions as “new intellectual objects”) are constituted as correlates of our conscious and rational life (*Hua XXXI*, 79-81 [2001, 350-352]).

5. The ideal forms of science: From their temporal genesis to their historical generativity

Pre-predicative perceptual experiences are active apprehensions of things “as such and such,” and thus presuppose the affective pre-givenness of the world as well as the first associative articulations that passively pre-constitute meaning. On the other hand, judgments rest on active pre-predicative experiences, not directly on passive experiences. The lifeworld, as horizon, is thus the experiential background of traditional logic, which is also remotely related to modern logics (Husserl 1985, 37 [1973, 40]).

The same is *a fortiori* true for geometry and mathematics, which Husserl described from a generative and historical perspective in a text known as “The Origin of Geometry” (*Hua VI*, 365-386 [1970, 353-378]). He there explains that the first geometers' abstractive processes began with the empirical *observation* of the forms and magnitudes (“primary qualities”) of their surrounding natural world, which they perceived together with color, warmth, weight, hardness, etc. (“secondary qualities”) (*Hua VI*, 384 [1970, 375]). Some of these forms stood out, leading these geometers to inductive generalizations of imperfect figures

not in the sense of a “special” type of consciousness, but as the highest form of “conscious activity,” in the sense of *becoming aware* of our desires (*Hua XXXI*, 10 [2001, 282-283]).

(circle, square, etc.) that they fantasized as seemingly perfect ones.¹⁸ Gradually, a new scientific “thinking activity” (an “idealizing, spiritual act, one of ‘pure’ thinking”) arose, one that created “ideal objectivities” (*Hua VI*, 385 [1970, 377]), whereby the ideal notion of a perfect figure such as a circle (the center of which is equidistant to all of the points of its contour—a 360° figure) was conceived. In Husserl’s view, this is how the first geometers attained the “idea” of identical “exactness.”¹⁹

Every initial idealizing abstraction implies inner, passive and active genetic processes in the “flowingly fading consciousnesses” (*Hua VI*, 370 [1970, 359]). The individual initial “retentions” of monadic ego-subjects gradually dissipate and sink into the past, yet without disappearing altogether. They can eventually be “reawakened” by *active* individual recollections that “coincide” with current original evidences, and *a fortiori* can do so in a chain of identifying reiterations. But none of these processes transcends the monadic minds (*Hua VI*, 370 [1970, 360]). Thus the findings and evident accomplishments of the first geometers—i.e., the evident *meanings* predicated of true “ideal (geometrical) objectivities” that could be orally “iterated” as “the same,” not their fleeting, subjective processes—had to be contrasted and shared among themselves through oral communication (*Hua VI*, 367-368 [1970, 355-357]).²⁰ Thus language, as the communicative “function of human beings” (*Hua VI*, 369 [1970, 358]), secured the consistent intersubjective *syntheses of coincidence of the first geometer’s evident experiences*, and enabled their transmission through *historical and generative* processes. But oral language could not accomplish this alone.

¹⁸ “The object of judgment is bound by the fact that it is a something in general, i.e., something identical in the unity of our experience, and hence such that it must be accessible to objective self-evidence within the unity of experience” (Husserl 1985, 36 [1973, 39]).

¹⁹ Husserl describes these inner processes as “imaginary variations” (*Hua IX*, 72ff. [1977, 53ff.]) that yield “idealizing abstractions,” etc. Perfect, “limit-figures” “cannot be seen” (*Hua III/1*, 155 [1982, 166]); they “lie in *infinity*” as “invariable” and “exact” poles to which empirical, morphological figures or essences can only “approach” more or less closely without ever reaching them” (*Hua III/1*, 155 [1982, 167]). See n. 38 below on “*ideas in the Kantian sense*.”

²⁰ In contrast, other individually existing cultural products (a sculpture, a vase, etc.) are given only *once*. Furthermore, Husserl distinguished the “ideal *meanings*” expressed linguistically, on the one hand, and the geometric “ideal *objectivities*” to which they refer on the other. Hence *by means* of “linguistic expressions” (concepts borne by sensible, linguistic bodies), the *objective* truths of geometry manifest themselves (*Hua VI*, 368 [1970, 357]).

If Galileo inherited geometry as a science already constituted in antiquity (*Hua VI*, 365-367 [1970, 353-355]), it was because it had become *sedimented* in a “*written*, documentary, linguistic expression, that renders possible communications without personal address” (speech) and ensures the *continuous permanence* of geometry’s “ideal meanings,” even when the first discoverers and their contemporaries are no longer in contact, or are no longer alive (*Hua VI*, 371 [1970, 360]). This is how the Pythagorean theorem, as an “ideal objectivity,” can always be “given in the world objectively” (*Hua VI*, 369 [1970, 358]).²¹ Hence Galileo *reawakened* in new, spontaneous cognitive acts the initial evident meanings of geometry according to the following fundamental law: “if the premises can actually be reactivated back to the most original self-evidence, then their self-evident consequences can be also,” in such a way that it “must propagate itself through the chain of logical inference, no matter how long it is” (*Hua VI*, 375 [1970, 365]).²² Thus sciences are not “[...] handed down ready-made in the form of documented sentences; they involve a lively, productively advancing formation of meaning, which always has the documented, as a sediment of earlier production, at its disposal in that it deals with it logically” (*Hua VI*, 375 [1970, 365]).

However, for Husserl geometry was only a paradigmatic example of processes that take place in *every* cultural production (“science, state, church, economic organization, etc.”) (*Hua VI*, 379 [1970, 370]). They all exhibit a similar *historicity* throughout the course of successive generations: a primal *meaning-constitution* (*Urstiftung*) becomes *sedimented* as a living tradition, is *transmitted*, later *reactivated*, and finally *transformed*. Thus phenomenology’s historical regressive question leads to history in its “*inner structure of meaning*,” which must be understood as the “universal *a priori* of history.”²³ Any understanding of knowledge and science—*a fortiori* of a “theory of science”—has to take into account this historical aspect, which is secularly ignored by the “ruling dogma of the separation in principle between epistemological elucidation

²¹ In Husserl’s view, the possibility of falsifications—lured by “the *seduction of language*”—is unavoidable if empty repetitions are not accompanied by active intuitive (evident) experiences that fulfill their original meanings (*Hua VI*, 372 [1970, 362]).

²² §9 of the *Crisis* offers a detailed, complementary description of the generative (historical) constitution of Euclidean geometry; its modern retrieval by Galileo; its transformations and applications; and its subsequent meaning-deviations (due to the “*seductions of language*”).

²³ The “universal *a priori of history*” [...] encompasses everything that exists as historical becoming and having-become or exists in its essential being as tradition and handing-down” (*Hua VI*, 379-380 [1970, 372]).

and historical, even the humanistic-psychological explanation,” a dogma that should be denounced as totally mistaken (*Hua VI*, 379 [1970, 370]). In this context, “history is from the start nothing other than the vital movement of the coexistence and the interweaving of original formations and sedimentations of meaning. Anything that is shown to be a historical fact, either in the present through experience or by a historian as a fact in the past, necessarily has its *inner structure of meaning*” (*Hua VI*, 380 [1970, 371]).

The “cultural formations” appertaining to the specific case of scientists *also* presuppose the “open endless” “horizontal-certainty” of their surrounding worldly background, “coherent through its generative bond,” “in reciprocal interaction” with the past and the future (*Hua VI*, 382 [1970, 374]). Although scientific endeavors are essentially *theoretical*, Husserl’s descriptions shed light upon the horizontal background (synchronic and diachronic) from which they stand out: that of the *evaluating* and *volitional* interests and motivations. This horizontal synthetic intertwining is essentially co-constitutive of humanity’s “concrete historical *a priori*”—of its historical communalized experiences and lifeworlds. The components of synchronic or diachronic experiences thus remain sedimented throughout history, in the different cultural traditions and worlds as the complex horizontal backgrounds of ever renewed experiences. This is the sense in which Husserl refers to the possibility of “irrational” (“pre-rational”) motivations of rational position-takings—practical, evaluative, or theoretical (*Hua XXXVII*, §23, Beilage V). And this also opens the possibility of individual and collective cognitive biases, even in the most advanced scientific research.

6. Revisiting the “practical” impossibility of the co-generative constitution of a “one world”

As already mentioned, the intersubjective, historical, generative constitution of theoretical “truths” (higher “objective *unities*”), such as those of mathematical sciences, was an ancient Greek “discovery.” However, this process is *mutatis mutandis* the same as those pertaining to every cultural production. This is due to the fact that from passive to active life, throughout history, and from generation to generation, all spheres of consciousness and reason (cognitive, evaluative, volitional) are essentially intertwined—notwithstanding that in each case, the interest of one sphere prevails, while the others motivate from the background.

6.1. A “fundamental irreducibility”

However, Steinbock seems to suggest that there might be a *radical* difference between theoretical-objective products of science and other domains. Specifically, he observes that there is a “fundamental irreducibility”—in the “ethical-axiological” domain—“of the structure homeworld / alienworld” due to “generative reasons,” such that both poles “cannot be synthetized into a ‘higher unity’ taking the form of an encompassing ‘one world.’” In contrast, only a co-generative constitution of scientific objectivity, as a “rational synthesis of actual and possible homeworlds of lower-order homeworlds,” could be “theoretically” possible (Steinbock 1995, 237). In his view, Husserl’s analyses that deal with the “structure homeworld / alienworld”—and with the possibility of a “higher unity” arising from that dichotomy—are not in fact dealing with broader, sociological or culturally-oriented problems. Instead, they stem from a mainly *theoretical* interest, that of descriptively examining the teleological generativity of European scientific reason. It is only “at times,” says Steinbock, that “Husserl is profoundly sensitive to the irreducibility of homeworld / alienworld through generativity,” referring to “alienness in terms of *inaccessibility*” (Steinbock 1995, 243).

Steinbock is additionally concerned as to whether it is an “ethical imperative to attain ‘the one world.’” He rejects this contention, arguing that if it were so, this “would be the attempt to *overcome generativity*, the very generative force that ‘ethical conscience’ was summoned to renew, not destroy.” In a speculative-Hegelian twist, or perhaps a Levinasian one, he seems to imply that to attain “the one world” is equivalent to having reached a seamless “identity” or “sameness.” This in turn would amount to the destruction (or “reduction”) of all “alterity.” Since “we cannot ethically take over” the “other’s” responsibility, then the “fundamental, axiological asymmetry of homeworld / alienworld” is unsurmountable—“it is expressed in an ethical impossibility of taking over the responsibility of the alien” (Steinbock 1995, 247).

Perhaps these contentions deserve a closer look in order to determine Husserl’s final views regarding the meaning of “objective truths” and “higher unities,” and even the notion of a “one world” in all cultural domains. And perhaps this will also allow us to give a more precise meaning to the aforementioned “inaccessibility.” In order to do so, I will start by connecting the problem of “difference” or “otherness” with Husserl’s theory of intersubjectivity, for the latter can be related to Husserl’s analyses of the structure “homeworld /

alienworld.” I will then attempt to show in which sense some traits of Husserl’s theoretical truths, despite their rank and specificity, are not wholly dissimilar to those of other cultural domains. I will briefly appeal to Husserl’s notion of “ideals that lie in infinity” (“ideas in the Kantian sense”), as well as to the reach and role of emotions in the constitution of theoretical truths.

One must naturally begin with perception and one of its most prominent “modifications”: *empathy*. Indeed, this lived experience is also a sort of “perception,” founded upon a straightforward, outwardly oriented one. However, empathy is specifically the apprehension of another’s *inner self*, hence it can *never* be a direct, immediate one. And yet it is an *intuition* founded on the perception of *another’s* body, and on the ensuing *passive*, associative apperceptions (and “pairing”) that lead us to conclude that the other’s body, like our own, is *also* moved by an *analogous* inner self (*Hua I* [1960], §§51-54). Hence even between two individual egos or subjects who mutually constitute an active “we,” there is never the possibility of annulling their mutual, irreducible “alterity.” Moreover, even in an isolated monadic ego’s *self-perception*, one never encounters a seamless field of “presence,” “identity,” or “sameness,” i.e., a *solus ipse* or a pure and “unique” “ownness” (*Hua III/1*, 93-94 [1982, 97]). Besides the *essentially temporal* dimension of monadic life that Husserl describes in its lowest primal strata as a “living standing-streaming present,” the so-called sphere of “presence,” “sameness,” and “ownness” always manifests itself as permanently intertwined with “absence,” “difference,” and “otherness.”²⁴

6.2. *The “transcendental articulation” of three intersubjective strata*

In order to further address the “irreducibility” of the spheres of ownness and otherness that compose the structure “homeworld / alienworld,” we also need to pay attention to Husserl’s genetic account of social intersubjectivity against the background of instinctive intersubjectivity, where it has its “birth” or “transcendental beginning.”

Under the guise of a “monadological idealism”—namely, of a *reflective* approach to the *alter ego*’s constitution—Husserl’s theory of intersubjectivity

²⁴ Some of the arguments briefly summarized here have been previously developed in Lerner 2010.

has mostly been known during the 20th century through his fifth *Cartesian Meditation*. He develops it there in view of a “*transcendental theory of the objective world*,” based upon the evidentiary nature of a strong meaning of *transcendence* as the ideal correlate of *all* the *explicit* and *implicit* lived experiences of *each* and *every* possible ego in general. However, this account belongs to a much larger context, the intricacies of which are to be found in countless analyses in his *Nachlass* (*Hua XIII, XIV*, and especially *XV*; Iribarne 1994, 28).

A methodological problem within the fifth meditation (Iribarne 1994)—the inadvertent and unclarified shift around §49, of which he only became aware after finishing his fifth meditation, from its initial reflective-*static* analyses into *genetic* analyses, each having different goals and gains (*Hua XV*, 50ff.; Bernet, Kern, and Marbach 1989, 145-149)—may explain much of the later misunderstandings of his theory of intersubjectivity.²⁵ The fifth meditation only too briefly refers to two other strata—a social or cultural stratum and a “*pre-reflective stratum*.” However, when examined, a “*transcendental articulation*” among the three aforementioned intersubjective strata is made clear.²⁶

²⁵ The phenomenological reductions preceding each type of analysis lead to two very different original fields: the so-called “primordial” sphere (*Primordialsphäre*) and the “sphere of ownness” (*Eigenheitsphäre*). The goal of Husserl’s *static* attempt was to carry out an eidetic-structural description of the constitution of the “transcendental other.” Beginning with posited, *constituted* objectivities (including the *alter ego*) and the bracketing of their respective “*positings*,” they were retained as “*transcendental clues*” of a retrospective interrogation leading to the *Primordialsphäre* of intentional lived experiences. Here *empathy* was singled out as announcing the *sense* and *validity* of the transcendental *alter ego* (*Hua I* [1960] §§43-49). Around §49, Husserl inadvertently changed course into a wholly different attempt: namely, to provide a *genetic-worldly* description of the *constitution* of the lived experience of empathy itself, as emerging from within the radically solipsistic *sphere of ownness* (*Eigensphäre*) of a monadic, concrete, embodied ego (*Hua I* [1960], §§49-58).

²⁶ Julia V. Iribarne proposes a reconstruction of Husserl’s pluri-stratified “theory of intersubjectivity” according to two main perspectives, based on the texts published in *Hua XIII, XIV*, and *XV*. The first perspective distinguishes two levels of analyses, *reflective* and *pre-reflective*. The *reflective* analyses include the *perceptual-empathic* (static and genetic) approaches to the constitution of the *alter ego* (found in the fifth meditation), and the constitution of the *cultural* or *social* intersubjectivity (see also *Hua I* [1960], §58). The *pre-reflective* analyses only include the genetic approach to instinctive intersubjectivity. The second perspective is that of a “unitary transcendental monadological theory” that articulates three strata of analyses: a “monadological idealism” (parallel to the former reflective static and genetic *perceptual-empathic* approaches); a “social monadology”; and finally, a “pre-reflective monadology” (Iribarne 1994, 181-196; Lerner 2010, 159-161).

6.3. From instincts to history: The dialectics of the “inter-esse”²⁷

Husserl’s genetic phenomenology allows him to relate the *individual* development of the organic body—namely, the biological and psychological (onto-)*phylogensis* studied by natural sciences—to its *transcendental* birth and genesis, hence to generative and historical problems. The transcendental “birth” or “beginning” already begins with the unborn, to which Husserl refers as a pre-child (*vorkindlichen Monaden*, or *Urkind*) (Hua XV, 595). The newborn child “already has an oriented instinct,” namely, pre-acquired experiences as a fetus in the mother’s womb, such as perceptual horizons, sensorial data and fields, or higher habitualities (Hua XV, 605). Husserl reconstructs the process of self-temporalization from the unborn *pre-I* to the newborn *Urkind* as a process of increasing “individuation.” However, at the very beginning, one can speak of *proto-facts* (*Urfakta*) irreducible to purely instinctive ones.²⁸

Consequently, instincts and history are interwoven in a double sense. First, the immanent development of each monad from its pre-natal tendencies all the way to reason and universal intersubjectivity (a process characterized as *teleological*) is a *factum*. Second, at a biopsychic level, ever since the ego’s transcendental birth, its so-called “innate instincts” *are already preceded* and “motivated” by *previous experiences* (habitualities, tendencies, drives, and inclinations) *inherited* from past generations through the parents (Hua XV, 609). In this sense, the presence of *others* mediating this “historicity” (“teleology”) of instincts *precedes* the pre-reflective account of the *alter ego*’s constitution.

²⁷ Bernhard Waldenfels’ reflections on the German word *Verschränkung* (interweaving, intertwining, overlapping) (1993, 53-56; 2001, 125-128) are helpful to clarify the “in-between” nature presupposed in such terms as “*inter-subjectivity*” and “*inter-culturalism*.” *Interesse* does not merely refer to the space that “mediates” between two or more members of a relationship or culture (such as in an interlocution, or an interaction). In all of these concepts the extremes of full coincidence (identity, fusion) or full distinction are to be rejected.

²⁸ Inspired by Goethe’s Faust (preceding *Wort*, *Sinn*, or *Kraft*), Husserl too states: “*Am Anfang ist die Tat*” (Hua VI, 158 [156]), whereby he means: “[...] the irrationality of the transcendental *factum*” (Hua VIII, 490 [2019, 613]); the “irrational *factum* of the world’s rationality” (Kern 1975, 338); death, destiny, and the sense of history—which “*is the great fact of absolute being*” (Hua IX, 298-301 [1997, 176-179]; Hua 1, 106, 181-182 [1960, 72, 155]; Hua VIII, 506 [633]). Finally, he admits that without the “*factum* transcendental *ego*,” “*the eidos transcendental ego is unthinkable*” (Hua XV, 385ff). Our *absolute* reality or *existence*, as “primal contingency” (*Urzufälligem*), “has its foundation in itself, and in its groundless being (*grundlosen Sein*) it has its absolute necessity” (Hua XV, 386).

Furthermore, Husserl's genetic analyses of the pre-reflective, instinctive constitution of intersubjectivity distinguishes *two orientations*: 1) to the most tender age (whereby the paradigmatic case is the mother-child relationship); and 2) to the pre-reflective genesis of intersubjectivity at the deepest, instinctive level of adulthood, whereby the paradigmatic case is the satisfaction of sexual impulses.²⁹ These remarkable analyses unveil the seminal presence of a primary *otherness* and difference *within* the ego's most absolute *ownness* or intimacy ever since its "transcendental birth." This peculiar structure of opposites—*presence-absence, symmetry-asymmetry*—remains at the background of Husserl's *sui generis* account of "social acts" and "plurality," thus of *social intersubjectivity* (*Hua I*, 159 [1960, 132]).

Husserl's account of the constitution of the first community (from the "I" and the "thou" to the "we"), and the way it gradually acquires (and bestows) *sense* and *validity*, is long-winded and complex. Here we only need to recall a basic Husserlian distinction (as briefly mentioned in §1 above). From a *real* (psychophysical) perspective, there is an unsurmountable hiatus separating the individual monads of a communalized group. However, from a *transcendental*, intentional perspective, there is a spiritual interpenetration (*Ineinandersein*), an "intentional implication"—one that is "unreal," albeit not imaginary—among individual monads that is reflected in their "*mutual being for one another*" (*Füreinandersein*) and in their actual and potential existence "*with-each-other*" (*Miteinandersein*) (*Hua VI*, 256-262 [1970, 253-259]; *Hua I*, 157-158 [1960, 129-130]) within the open horizon of unlimited spatial-temporal nature.//

While *social acts* are mainly characterized by their "intention of communication" (*Hua XIV*, 166) they are preceded by the founding horizon of a passive instinctive constitution that includes the understanding: 1) of our bodies as organs; 2) of our surrounding sensible world; and 3) of our daily, instinctive needs (*Hua XV*, 442, n.). Furthermore, they require the "wakeful being of the I" (*Wachsein des Ich*) and "linguistic understanding." Although it is not the only form of human communication, speech is nonetheless the essence of "social acts" and the basis of "*personalities of a higher order*" (*Hua I*, 160 [1960, 132]).³⁰ Husserl does not deal with the latter as "mere analogies" of their

²⁹ Both orientations presuppose the passive genesis of fields of sensations, associated kinaesthesia, and other sensuous (*hyletic*) processes and drives related both to passivity (*Hua XV*, 594) and to primary time-consciousness.

³⁰ Cf. "the unity of a state, a religion, a language, a literature, an art" (*Hua XIV*, 194).

monadic members (*Hua* XIV, 201, 404),³¹ and they are also *passively* generated in a “communal genesis” (*Gemeinschaftsgenesis*) (*Hua* XIV, 221), prone to the d// angers of an uncritical retrieval of the past, or of falling prey to the ideological extremisms typical of mass phenomena.

In sum, higher-order personalities constitute their specific *cultural surrounding world* (*Hua* I, 160 [1960, 132])—their familiar horizon from which they not only reach the natural world, but project themselves to the unknown horizon of other communities and alien cultural worlds. At all stages of these historical, generative processes, “what is a mutual externality from the point of view of naïve positivity or objectivity is, when seen from the inside, an intentional mutual internality” (*Hua* VI, 260 [1970, 257]).

6.4. *A first step—from “homeworlds” to “alienworlds”*

Phenomenological descriptions of constitutive processes of “alienworlds” begin with descriptions pertaining to our own passive primordial sphere, following the course of several mediating, constitutive strata. From the lowest to the highest, our world appears *oriented* from a familiar “center” toward an increasingly unknown horizontal periphery. Husserl sought to uncover the specific (experiential, not factual) processes of the “social empathy” that allows us to shorten the gap between “homeworlds” and “alienworlds.” Simultaneously, he wished to unveil the “normative force” and “rational necessity” that compels humans to regard the *theoretical possibility* of a *universal*, all-embracing, *unitary* measure in every sense—epistemic, rational, evaluative, ethical, cultural, etc.—and to *feel* the *practical* and *axiological* “need” for it.

As already mentioned, phenomenological analyses highlight the fact that “there are pre-forms of the alien within daily experience” (*Hua* XXIX, 44-45, 387-389; Lohmar 1993, 70). These are encountered and gradually overcome since our birth, as in acquiring skills or in any common learning process (reading,

³¹ They exhibit specific capacities (*Vermögen*), “characters,” “convictions,” representations, valuations, decisions, “habitualities,” memories, collective traditions, and sedimented truth-meanings throughout their historical time—as growing, changing, aging, and even with a certain “bodily” dimension. They also evolve as “zero” (“central”) members of a larger intersubjective world, and their behavior regarding alien communities is comparable to that among individuals.

writing, calculating, sports, playing music, crafts, sciences, cultural disciplines, etc.) (*Hua* XV, 227-228, 233, 409ff.). These “differences” are frequently dismissed as trivial because every “homeworld” is immediately accessible, both cognitively and emotionally.³² The simplest “we” (the first “homeworld”) begins with the family and continues in concentric rings to the community, the homeland, and so forth. Initially, one identifies *the* world with one’s own “surrounding homeworld,” and “humanity *tout court*” with one’s own “closed humanity.” The “alienworld” not only appears as distant and unknown³³—“colored” by our prejudices—but also as a threat to the notions of *the* world and *the* humanity that are forged from within our “homeworld.” At every stage, our spiritually colored concrete anticipations become fulfilled under certain “normalizing” criteria, whereby deceptive fulfillments or unfulfillments are viewed as “eccentric” or “mad.” Thus each historical worldview tied to a homeworld begins by claiming (and may never cease to claim) that it is the *one and only* worldview (*Hua* XXIX, 45; Lohmar 1993, 88).

Now “even within a national world [...] different subjective apperceptions” can coincide and “identify” “the same sun, the same moon, the same earth, the same sea” (*Hua* XXIX, 44-45, 387) as belonging to the same surrounding world. Thus by revealing “anticipations” of “the unknown in the style of that which is known to us” (*Hua* XV, 430) *within* one’s *own* homeworld, phenomenological descriptions demonstrate the possibility of the further expansion of every “homeworld” when encountering “alienworlds.”

6.5. A second step—beyond “homeworlds” and “alienworlds” to the “one” world

From that basis (the passive and active constitutive processes that begin in our own primordial sphere), Husserl then sought to understand *why* and *how* humans inevitably *tend* to constitute the meaning *world* (and *a fortiori*, that of “one world”). This “tendency” seems innate, and reminds us of Kant’s

³² In sharing the same customs (*ethoi*) and traditions, gestures, and language, everyone learns since birth “what” things are “for,” “what ends” are pursued by people’s actions, etc. (*Hua* XV, 220ff., 224ff., 430-431).

³³ The alienworld appears as a perceptual surrounding world with another “spiritual” sense (*Hua* XV, 432-433), “other ends in life, other convictions of all types, [...] other practical modes of behavior, other traditions,” and other worldviews (*Hua* XV, 214).

description of the “transcendental illusion” (*Schein*) that inextricably drive us to transgress the limits of our experience even when the illusion’s components have been uncovered (Kant 1998, A 293-298 / B 249-B 355).³⁴

Husserl tries out more than one descriptive strategy, e.g., in the 1935 Vienna Lecture and in others he left unpublished in manuscripts written between 1931 and 1937. The Vienna Lecture is the one most well known (*Hua VI*, 314-348 [1970, 269-299]) and criticized. It led to the widespread interpretation of Husserl’s view as founding the idea of reason and science as a *unitary* measure for all humankind upon the mere *projection* of his own dominant European homeworld.³⁵ Indeed, any argument that theoretically prioritizes a particular viewpoint over and against other perspectives—as universally valid for all—is, of course, an abusive generalization. To be fair, Husserl had always been aware that his role was not that of a “political influencer,” but of a “scientific philosopher” who had to prioritize his own “expertise,”³⁶ albeit under the aegis of the “infinite (*practical*) idea”³⁷ of radical self-responsibility as ultimately founding his “idea of philosophy” (*Hua V*, 139 [1989, 406]). Since World War I he firmly believed that humanity could be “unified” precisely under *that* “infinite idea” (*Hua XXV*,

³⁴ A “transcendental illusion” arises when reason claims that the “unconditional totalities” (ideas of reason) constituted by a regressive, inferential chain of conditions have a “scientific, objective” *status* (as in mathematics or physics). However, Kant appreciates that this tendency is an *essential regulative principle* not only for the sciences themselves (1998, A 602 / B 720 *passim*), but most of all for pure reason’s highest interests and uses: for its *practical* use “if the will is free” (“what should I do?”), and for humanity’s *eschatological* end (“the ideal of the highest good”), if there is a future life for which we have become worthy (“what may I hope?”) (Kant 1998, A 797 / B 825ff.).

³⁵ Scheler and many others claimed that Husserl’s Vienna lecture strikes one as “logocentric” and “Eurocentric.”

³⁶ Though Husserl sympathized with Arnold Metzger’s “The Phenomenology of Revolution: A Political Writing on Marxism and the Loving Community” (later published in Metzger’s *Phänomenologie der Revolution. Frühe Schriften*), he wrote to him (09.04.1919): “That is not my task, I am not called to lead mankind in striving for a ‘blessed life.’ [...] I live purely conscious and by choice as a scientific philosopher [...]. Not because I regard truth and science as the highest value. On the contrary: ‘The intellect is the servant of the will,’ thus I too am the servant of those who shape our practical life, of the leaders of humanity” (*Hua Dok III/4*, 409 [361]).

³⁷ In the theoretical context of *Ideas I*, Husserl conceives the notion of “ideas in the Kantian sense” (*Hua III/1* [1982], §§74, 83, 143) as “ideals” that, notwithstanding the fact that they lie beyond the reach of human cognition and practical realization, function as theoretical and practical *guides* or postulates (just as the North Star guides navigators and explorers). Thus he conceives them in analogy to geometrical asymptotes, namely, as straight lines that constantly approach a given curve, but do not meet it at any infinite distance.

44, 97-98, 267-284ff.; *Hua* XXXV, 203, 251; *Hua* VI, 347-348 *passim*). Thus when the 1935 lecture mentioned that Europeans do not tend to “Indianize” themselves, but rather that other cultures have historically tended to assimilate the theoretical ideal born in ancient Greece (*Hua* VI, 320 [1970, 275]), this did not refer to Europe as a *historical factum* or a “zoology of peoples,” but to Europe as the *rational ideal* of an infinite *telos* (an ultimately responsible “unified humanity”), even if the said ideal was born in that land. “The *regulative* idea speaks in the name of a philosophical radicalism that must remain stateless” (Lohmar 1993, 85-86, my emphasis).

The 1931-1937 manuscripts offer a more nuanced and promising account (*Hua* XXIX, 41-46, 386-389), as Lohmar points out. They are also consistent with Husserl’s constitutive description of the genesis of *universal entities* from passivity to activity (*Hua* XI and *Hua* XXXI). Husserl reflects on the “utility” of the role played by world commerce at the time of the Greeks, and its contribution to the genesis of the notion of “*supranationality*” as a *rational, universal idea* (Lohmar 1993, 89). It was not a “third-person” contact with alien worldviews (transmitted orally or textually), but the *personal, peaceful exchange* between merchants—thus the “dynamics of the encounter among several cultures” and “the *mediation* among concurrent worldviews” (Lohmar 1993, 88-89)—that led the Greeks gradually to acknowledge other alien worldviews as “homeworlds” with *their own validities*, and simultaneously the *relativity* of the “normal” views of their own homeworld, thereby dismantling their alleged “universal reach”: “Precisely this normality first breaks when human beings enter the alien nation’s vital space from their own national one” (*Hua* XXIX, 388),³⁸ and gradually relativizes its own national myths. Husserl always viewed this process as an *idea* that could “only be realized [...] in an infinite historical process”; however, “in this way it is, in fact, realizable” as an *idea* built upon “ultimate self-responsibility” as its “ultimate foundation” (*Hua* V, 139 [1989, 406]; *Hua* VI, 275 [1970, 339-340 *passim*]). But it is not an idea that only concerns theoretical reason, for “reason allows for no differentiation into ‘theoretical,’ ‘practical,’ ‘aesthetic,’ or whatever”; and because “being human is teleological being, and an ought-to-be,” this is a teleology that “holds sway in each and every activity and project of an ego” (*Hua* VI, 275-276 [1970, 341]). In sum, it concerns an *innate* tendency in every human being toward a

³⁸ “In the context of humanities from different nations that communicate with each other peacefully, what to each was simply an existing world in a mere national mode of representation (regarding its validity) is itself transformed” (*Hua* XXIX, 45; Lohmar 1993, 91).

universal, unified *telos*, notwithstanding the latter is only “an *idea* residing in the infinite and is *de facto* necessarily [only] on the way” (*Hua VI*, 274 [1970, 339]).

Consequently, we depart from Steinbock’s reading that this idea was for Husserl only possible for theoretical rationality, and that the “idea” of *an* ethics, *a* humanity, etc., beyond the irreducible structure “homeworld / alienworld” would be impossible for “generative reasons.” He is right in that it is not realizable *in actus*, but only as a movement of “self-understanding” “in infinite progress.” However, this is also *a fortiori* true for *theoretical* reason.

7. Conclusion: Emotions, epistemic values, and cognitive biases

To conclude, I wish to address three questions that arise from Husserl’s analyses: 1) whether the intentional structure of cognitive consciousness and reason underlies and prevails over all other forms of consciousness; 2) whether emotions in general as constitutive of *values*—be they moral emotions or something else (such as “private feelings” or “instincts”)—have *any* constitutive bearing on *theoretical* sciences; and finally, 3) whether theoretical scientists, even those guided by the highest “epistemic values,” are subject to unconscious motivations and cognitive biases.

7.1. *Are emotions “non-founded” and “independent”?*

Values and biases are credited in general to the emotional sphere, a sphere of experience that humans share with other species. But according to Steinbock, as essential components of properly human experiences, they also reveal their unique dimension of autonomy and freedom (Steinbock 2014, 3-5). Although this latter discovery is credited to modern times, since then they have typically been sidelined until their gradual philosophical and scientific rehabilitation in the 19th century (Steinbock 2014, 5). Husserl, who studied philosophy and psychology under Brentano, is valued by Steinbock as a “herald” of this revival. However, like Scheler, Husserl wishes to give emotions an “original and unique phenomenological voice” (Drummond 2014, 3), with their *own* evidence and modalities—“an essentially different [intentional] structure [...] which concerns the person (and not simply the subject as perceiver or

knower)" (Steinbock 2014, 7). Although Steinbock acknowledges that "relations of founding are multifarious," unlike Husserl he claims the "independence" of emotions regarding the "founding" noetic-noematic form of objectivating intentionality, a "static appraisal" of constitutive strata that "is also the sense in which Husserl conceived of passive syntheses." In his view, what is "at issue" here is neither the *intentional* character of emotions nor "the founding relation, [...] but the fact that the emotional sphere is said [by Husserl] *to be founded in* a more basic 'epistemic' intentionality," with "the same kind of rational import" (Steinbock 2014, 10). Hence Steinbock's work attempts to show that at least "moral emotions" are "irreducible both to epistemic acts, on the one hand, and to instinct or 'private feelings,' on the other." And he adds that in contrast with other emotions and moods, they are moral because they are "interpersonal," namely, "not self-grounding" (Steinbock 2014, 11-13).

We can agree that moral emotions do have a specificity, and—*qua* emotions—they do not have the "same rational import" as objectifying acts. A *sui generis* "interpersonal" spiritual dimension of moral emotions is also undeniable. However, Husserl's phenomenological analyses reveal that although each monadic ego is a *unique* personal, psychophysical individual, its experiences—as previously mentioned—are *intentionally interconnected* with those of others (in an essential *Ineinandersein*, *Füreinandersein*, and *Miteinandersein*). In this wider sense, then, not only *moral emotions*, but many lived experiences of other conscious or rational spheres are interpersonal. Moreover, we can wonder whether there are *any* essentially "self-grounding" experiences, including science's specifically "theoretical attitude." For even if in some contexts Husserl refers to basic perceptions as "founding" experiences, and thus as standing even when stripped of higher-level "founded" strata (judgments, emotions, will) (*Hua III/1* [1982], §§93-95), no experience can be absolutely self-grounding or possible in absolute isolation. Indeed, "*no concrete mental process* can be accepted as *a self-sufficient one in the full sense*. Each is 'in need of supplementation' with respect to a prescribed concatenation, which is therefore not arbitrary according to its kind and form" (*Hua III/1*, 186 [1982, 198]). To be sure, the *attentional* interest that characterizes "objectivation, thinking, valuing, [...] is not to be found in every mental process," even though each mental process "can still include intentionality within itself." But all spheres of conscious life are given within a spatial and temporal horizon wherein they are all intertwined. Moreover, to the *potential field of perception*, despite its "*objective* background," "there belong [...] mental processes of the actual background, such as the '*arousal* of pleasures, of judgments, of wishes, etc., at different distances in the background, or, as we

can also say, at a *distance from* and a *nearness to the ego*, since the actual pure *ego* living in the particular *cogitationes* is the point of reference" (*Hua* III/1, 189 [1982, 200]).

Husserl's "relations of founding" have also frequently been addressed as "logocentric,"³⁹ a position that I believe needs to be nuanced. Husserl distinguished *Geltungsfundierung* and *Genesisfundierung*. As previously mentioned, the first—within the *eidetic conception of phenomenology as first philosophy*—was initially concerned only with *active* consciousness (*a fortiori*, reason) within a *static* description of the founding-founded strata. Specifically, it had in view the foundation of theoretical, practical, or evaluative *rational* disciplines (such as *logic*, *praxeology*, or *axiology*). These disciplines accordingly unfold entirely within a *predicative* context, requiring the use of *language (logos)* (*Hua* III/1 [1982], §124). Moral philosophers who develop theories of values or manuals on ethical norms are not merely *experiencing* their emotions (compassion, trust, joy, spiritual rapture, surprise, horror, etc.), making decisions, or acting upon them. A theoretical shift of regard, a new *attentional* interest has stepped in, an "objectifying" intention that brings the "presentational basis" to the forefront in order to dissect those "pre-given" experiences, to describe and evaluate them, and finally to articulate them in coherent, structured judgments, and eventually in theories.⁴⁰ Husserl later developed a different notion of foundation—*Genesisfundierung*—including both active and passive constitution, such that the latter is the ultimate source (*Uranfang*) and "primal ground" of all validations (*Hua Mat* VIII, 4). From a purely *genetic* point of view (not from the "attentional interest" of the theoretician)—including a phenomenological *onto-phylogenetic* account (*Hua* XV, 604 *passim*)⁴¹—everything indicates that the proto-passive experiential stratum is not initially "presentational." However,

³⁹ The term was coined in the 1920s by the German philosopher Ludwig Klages and popularized by French phenomenologists who criticized Husserl's transcendental interpretation of phenomenology, an appraisal perhaps nourished by Georg Misch's 1929 *Lebensphilosophie und Phänomenologie*.

⁴⁰ "Logical acts *only illuminate* and render visible *what is already there*. They constitute *only the logical forms*, but *not* the proper rational *contents* of the parallel rational spheres apprehended in *those forms*. Indeed, I must reiterate: in order to understand from the deepest ground how this can be accomplished by the doxic acts and the higher logical acts—what is properly due to them [...]—all of that demands very difficult further evidencing in the domain of the general essential structures of consciousness" (*Hua* XXVIII, 69, my italics).

⁴¹ The primal experiential stratum of the newborn child is "already of a higher level," for (as we initially mentioned above) still in its mother's womb—before any "hetero-affection" has yet taken place, and before there is a world for an *I* or a *we* (*Hua Mat* VIII, 199, 335; Walton

as Steinbock rightfully stresses, “moral emotions” *per se* have their specificity as active, conscious, interpersonal, and spiritual experiences. Their *intentional character*, as constitutive of their own specific value-meanings, of their modes of itself-giving, of validating, and of their self-temporalizing structures, do not need to be *founded* on “objectifying” experiences.

7.2. *Are theoretical sciences “axiologically neutral”?*

My second question is whether emotions in general as constitutive of *values*—be they moral emotions or something else (such as “private feelings” or “instincts”)—have *any* constitutive bearing on *theoretical* sciences, on their research and statements, and if so, to what extent. Hence the issue is whether theoretical sciences (nomological or descriptive) are “axiologically neutral” (“value-free”) or not (“value-laden”).

Mirja Hartimo’s reflections on epistemic norms (2022) will guide us here. The term “epistemic values” was first coined by Thomas Kuhn (1977), as having a purely “objective” (theoretical) sense.⁴² But social epistemologists and feminists have also argued since the 1970s that a “plurality” of other epistemic values should be admitted in scientific research, including those contextually (socially or individually) motivated (Hartimo 2022, 235). Despite Husserl’s early “value-free” position regarding theoretical research, his view evolves from the 1900/01 *Logical Investigations* (*Hua* XVIII, XIX/1-2) to his 1936 *Crisis* (*Hua* VI), where he finally acknowledges the concurrence of heterogeneous sets of epistemic values (motivated by theoretical *and* historical/social factors) (Hartimo 2022, 235-242). Husserl’s evolving views during those nearly four decades is not devoid of reversals, “striking contrasts,” and/or apparently incompatible assertions.

On the one hand, he sharply distinguished the theoretical and emotional attitudes, notwithstanding their parallelism, and separated their rational acts and

2017, 13)—the pre-ego has already functioned as a passive “center of affection and [kinaesthetic] action” (*Hua* XV, 605 *passim*).

⁴² “Objectivity, Value Judgment, and Theory Choice” (1977) is Kuhn’s response to “criticism directed at his *The Structure of Scientific Revolutions* (1962),” and is meant to “counter the claim that a choice of a paradigm or a theory is in his analysis necessarily arbitrary or irrational.” Habermas’s 1968 *Knowledge and Human Interests* also questioned logical positivism’s and Weber’s views on the “value-free” character of “scientific statements” (Hartimo 2022, 234).

theories (logic, axiology, praxeology),⁴³ claiming the “primacy and autonomy of theoretical reason” (the “doxic sphere”) as *founding* the other two rational spheres—the valuative and the practical.⁴⁴ He also considered that the objects studied by the sciences guided by the epistemic norms and values of “a genuine science” are disengaged from “all personal and social values” (Hartimo 2022, 239-240). On the other hand, some of the same texts where he allegedly claims that theoretical truths are “value-free” seem to hold contrasting views. For instance, he raises “the question about the interwovenness of theoretical, axiological, and practical truth” (*Hua* III/1 [1982], §139);⁴⁵ moreover, he asserts that the “personalistic attitude” is our “immediate, natural attitude towards the world and the people and things in it [...] laden by various values,” thus that it is “more primary than the naturalistic theoretical attitude” (*Hua* IV, 183-184 [193]).⁴⁶ Since early on, he also acknowledges a “plurality of incompatible sets of theoretical values” correlative to different subject matters or objectivities (empirical vs. nomological; descriptive-morphological vs. exact and axiomatic, etc.) (Hartimo 2022, 243-244).⁴⁷

However, these “evolving views” (which could appear to be reversals, “changes of mind,” nuances), are consistent with Husserl’s multifarious descriptive demands, which are all addressed in the 1930s (especially in the *Crisis*). In this text, apart from the strictly “epistemic” values and norms that Galilean and modern science embodies (§9), Husserl also decisively adds alternative contextual-cultural values as historically and socially constituting it. In the appendix on “The Origin of Geometry,” as also aforementioned (see §5

⁴³ For example, the mere linguistic expression of emotions is distinguished from the “neutral” theoretical attitude in which these emotions are *rationally justified* (*Hua* XXVIII, 128-129; Hartimo 2022, 236).

⁴⁴ *Ideas II* reiterates the primacy of physical sciences, in which “theoretical objectivities are [intersubjectively] constituted as categorial objectivities,” having “excluded” (much like the *epoché*) the “valuing or practical acts” that “have essentially contributed” to their constitution (Hartimo 2022, 237-238).

⁴⁵ In 1906 Husserl had already expressed his need for a “*critique* of reason, a critique of logical and practical reason, of normative reason in general,” which would allow him to attain the “clarity” of the “the *unity* of outlook upon this world,” etc. (*Hua* XXIV, 443-444 [1994, 493-494], my italics).

⁴⁶ The naturalistic attitude is “subordinated” to the personalistic attitude, by “suppressing” it in “an apperceptive shift” (Hartimo 2022, 239; *Hua* IV, 195 [1993, 195]).

⁴⁷ That is, “truth” and “non-contradiction” coincide with Kuhn’s list of epistemic values. Yet Husserl also adds the “spirit of critical self-justification,” along with his “reservations” regarding the “illegitimate ‘absolutization’ or general ‘applicability’ of every epistemic value to every ‘set of phenomena’” (Hartimo 2022, 241; *Hua* XVII [1978], §§79-80 *passim*).

above), these values are “often also a matter of interests and goals,” with an “inner structure of meaning” derived from a “historical cultural world”⁴⁸ (Hartimo 2022, 246-247).

In my view, Husserl does not “change his mind,” nor does he suggest “alternative models for scientific knowledge and rationality” (Hartimo 2022, 246), but gradually develops an increasingly complex, systematic, and *unified* transcendental-phenomenological “theory of science.” If he has “reservations” regarding the “illegitimate ‘absolutization’” or general “applicability” of *every* epistemic value to *every* “set of phenomena,” it is precisely because their evidence and “truth-value” has in each case a “specific range” tied to a specific “*constituting horizon*-intentionality” that has to be taken into account (*Hua* XVII, 206-207 [1978, 199]). The question of “what is truth?” in science necessarily demands the “task of a critique” of its evidences, as Hartimo rightfully underlines—not merely a “naïvely employed” critique, but the “deepest criticism” of scientific performances (a phenomenological-transcendental one), “in order to know *what* one actually has as ‘it-itself,’ and with what *horizons* one has it, when one has something in evidence, as a consciousness in the mode: having something *itself*” (*Hua* XVII, 207-208 [1978, 200]). Transcendental phenomenology unveils the “hidden” horizons that are at work within the natural attitude, and shows how the scientists’ *rational* choices and positings are *motivated* from this background.

Consequently, all theoretical sciences are “value-laden,” guided not only by “purely” epistemic values, but also by the “*typical specific likeness*” of their cultural “*situational horizons*,” which is the reason why they will always require a “radical” critique of their evidences. Finally, scientific work is “communalized,”

⁴⁸ Hartimo sees a “striking contrast” in the *Crisis* between its two accounts of the theoretical constitution of ideal objectivities in §9 (“mathematization”) and in the appendix on “The Origin of Geometry” (“communication”) (2022, 246). In my view, they have different, but *complementary*, genetic-generative approaches to their historical constitution and to the sources of their “falsifications.” Galileo’s account in §9 depicts how the retrieval of Euclidean geometry in modernity gives rise to a wholly distorted view of mathematical physics—a merely powerful rational *instrument* to contrive hypotheses and theories is interpreted as an ultimate *criterion* to discern truth from falsehood, or is “substracted” as the ontological grid of reality in itself (Newton’s “*hypotheses non fingo*”) (*Hua* VI, 37, 41 [1970, 38, 42]). In contrast, “The Origin of Geometry” (see §5 above) focuses on the role both of *oral* communication in the genesis of ideal concepts and of *written* symbols and language to *fix* their meanings, without which they could not be transmitted, reactivated, and transformed throughout the generations, although falsifications can also occur (see n. 22 above) (*Hua* VI, 372 [1970, 362]).

intersubjectively connected, and it is thus that sciences produce theoretical, axiological, and practical truths, subjected to historical “*alterations of validity*” (*Hua* VI [1970], §47), “paradigm changes,” or “scientific revolutions.”

7.3. *Epistemic values and cognitive biases*

My final question is whether theoretical scientists, even those guided by the highest “epistemic values,” are prone to eventual unconscious motivations that stem from the “‘psychic’ underground of the spirit” (*Hua* IV, 332-340 [1989, 344-351]).⁴⁹ In sum, the issue is whether they cannot avoid being vulnerable to cognitive and thus epistemic biases that are also reflected in the *final constituted* products of their rational activities (in their theoretical statements, hypotheses, theories, etc.).

Regarding this question, Husserl’s notion of *horizon* (actuality/non-actuality) once again comes to the fore as an essential component to understand his conception of the interweaving of the three rational spheres and their ultimate grounding upon a sensuous, receptive, and passive dimension.⁵⁰ Again, the notion of *attention*—or “attentive interest” (whereby intentional lived experiences become “objectified”)—is pivotal for his understanding of the horizontal (temporal-intentional) structure of the “field of consciousness” as being extremely limited in scope.⁵¹ From 1893 (*Hua* XXXVIII, 159-189) up to the *Crisis* (§47) and *Experience and Judgment* (§§17-20 *passim*), Husserl observed that the attentive interest in an actual objectivity detached from its background is, in fact, *passively guided* by a non-actual (temporal) horizon of affections,

⁴⁹ This is a matter not only of the site of primal sensibility, but also of its “immanent teleology” whereby “the spiritually active” transforms into “a secondary sensibility” (a “sediment of reason”) that provides “the future ego-actions with pregivennesses,” and “ways of retransformation back into activities” (*Hua* IV, 332-334 [1989, 344-345]).

⁵⁰ Husserl’s development of his concept of horizon began with his 1891 research on the *psychological* sources of arithmetic (numbers), involving acts of “collective syntheses” against the background of their temporal succession, as well as on its logical sources and the role of “figural moments” when grasping groups and multiplicities. Husserl believed that the coincidental and simultaneous publication of Ehrenfels’ discoveries in the latter’s *Gestaltqualitäten* and of his own *Philosophy of Arithmetic* was due to the influence exerted on both by Ernst Mach’s 1886 *Beiträge zur Analyse der Empfindungen* (*Hua* XII, 210-211 [2003, 223]).

⁵¹ Wundt observed the essentially limited scope of the “field of consciousness” (*Hua* XXXVIII, 91ff., 109ff., 159ff.), to which Husserl acquiesced, adding that certain “attentional marks” (empirical-subjective circumstances) motivate awareness (*Hua* XXXVIII, §23).

habits, states of mind, and cognitive tensions (Byrne 2022; Walton 2017, 4). By further examining the increasingly complex horizontal intentional structures (Walton 2017, 6-8ff.), Husserl gradually came to acknowledge that it is from this passive, primal and secondary level (along with increasingly differentiated strata) that the active life of consciousness and of reason emerges in “*ever higher functional structures*” that render mundane objectifications possible. This same *structure* characterizes the practical, theoretical, and emotional interweaving of conscious and rational life in such a way that while the interest of one of the spheres is effectively and actually highlighted, the “interests” of the other spheres remain passively “motivating” from the horizontal “non-actual” (*inaktueller*) background (*Hua* IV [1989], §5). The *Crisis* clarifies that the horizontal structure of consciousness is tied to the communalized “*universal a priori of correlation*,” and that all the changes and alterations that affect our experiential and rational evidences, are grounded upon it (*Hua* VI [1970], §§46-47; Walton 2015, Ch. X *passim*).

As seen in the previous conclusion (7.2, above), the *rational* position-takings of every *theoretical* science (either nomological or descriptive)—including formal logic and ontology, axiology, and praxeology—are motivated both by rational “*epistemic values*” and by socially and culturally situated interests and goals. But scientists’ rational, theoretical positings can also hide or disguise irrational (pre-rational) motivations triggered by the passive, non-actual, horizontal background of consciousness—without fully determining them (*Hua* IV, 332-338 [1989, 344-351]; XXXVII, §23, Beilage V).⁵² Hence Husserl believes that all scientists have the radical responsibility to subject their assumptions, epistemic norms, goals, and motivations to a permanent, radical, and humble self-critique, and thus to be willing to redirect the course of their theoretical, axiological, and practical position-takings if needed according to ever new evidences—even if this means to embark on an open-ended effort of “infinite tasks.”

⁵² Husserl’s findings have previously been confronted with recent scientific research in psychology, neurology, and cognitive sciences (Lerner 2022, 185-211). They all shed light on the hidden motivations of our rational position-takings, which are not primarily theoretical (governed by our brain’s frontal neocortex)—hence concerned with *what* we believe or do—nor are they even related solely to our decisions and actions (governed by the middle brain, which controls *how* we do things). Instead, the strongest motivations, including motivations for rational positings, stem from the emotional limbic center (the “psychophysical heart”), hence from the brain’s most primitive layer, one that humans share with non-human animals.

A simple example will provide my final conclusion. Known as one of the most brilliant theoretical physicists and scientists of all times, Albert Einstein did not believe until 1931 that the universe was expanding, long after many of his contemporaries did, and even after the American astronomer, Edwin Hubble, had shown him empirically observed and measured astronomical data (the light redshift emitted by far-away galaxies). In accordance with his 1915 “general theory of relativity,” he had conceived the universe since 1917 as homogenous, static, spatially curved, infinite, and forever immutable (some say, influenced by Spinoza). In 1927, a young Belgian astrophysicist, the Abbé George Lemaître, who had just obtained his PhD from the Catholic University of Louvain, published a paper⁵³ concluding that the universe was expanding. Einstein admitted that Lemaître’s mathematics was impecable, but bluntly dismissed his paper, saying, “from the point of view of physics this seems to me abominable.” For Einstein, Lemaître’s cosmology “suggested too much the (theological) idea of creation.” Four years later, and after long discussions with astrophysicists of his generation, Einstein finally accepted the idea of an expanding universe, but not that of the beginning of the universe (not even a “natural beginning”), since he still felt that it resembled a “created” universe too closely.

Einstein’s case exemplifies the essential acknowledgement that every theoretical position-taking, even if it belongs to the “most intelligent human being alive,” is not only always culturally situated, but it is influenced by the “psychic underground” that is the inevitable, generative-historical heritage of individuals and social communities. Although both individuals and historical communities may hold firm to their beliefs as strictly and solely derived from purely rational premises, their assumptions are always interwoven within the horizon of pre-rational or even irrational motivations stemming from primal instincts and tendencies, or from previous convictions sedimented in secondary passivity—of which, of course, they know nothing and would probably deny.

The phenomenologist’s task is not only to lay bare and describe these findings, but also to be aware that this also affects the scientific character

⁵³ Entitled “A homogeneous universe of constant mass and increasing radius accounting for the radial velocity of extra-galactic nebulae,” his paper combined Einstein’s equations of general relativity with astronomical observations. Lemaître showed his paper to Einstein in Brussels, during the 1927 Fifth Solvay Congress of Physics. Young Lemaître’s additional merit was that his paper was published even before Hubble had made known his findings (the “Hubble law”). Einstein did finally come to appreciate Lemaître’s cosmological contributions.

of phenomenology's own work. That is why Husserl demands that the phenomenologist undertake a self-“critique” regarding the apodicticity and range of one's own “transcendental experience and knowledge” (*Hua I*, 62 [1960, 23]; see also §63). But the development of this claim belongs to another context.

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Recibido 31-05-2024

Aceptado 03-10-2024