

# Pain as a Secondary Quality: A Phenomenological Approach

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**Abstract.** This work proposes that pain meets the requirements of being characterized as a secondary quality, as it *covers*, like a color, a determined extension. The argument seeks to establish a literal pain-color analogy through an inquiry into the intensity and location of the pain. From the classic intensity/location relationship reported by patients with acute appendicitis, three degrees of pain are distinguished: mild, moderate, and severe. The objective is only achieved by examining the Body's extensional determinations (primary quality) insofar as each of these degrees of pain *covers* three particular measures. Once these three measures have been explored according to the perforation process (tissue damage), the work ends by identifying pain as a transcendent moment.

**Keywords:** Pain, Husserl, intensity, secondary quality, localization

## Skaumas kaip antrinė savybė: fenomenologinė prieiga

**Santrauka.** Šiame darbe teigiama, kad skausmas gali būti apibūdintas kaip antrinė savybė, kadangi jis, kaip ir spalva, turi apibrėžtą ekstensiją. Straipsnyje siekiama nustatyti tiesioginę skausmo ir spalvos analogiją tyrinėjant skausmo intensyvumą ir vietą. Remiantis klasikiniu ūmaus apendicito priepuolį patyrusių pacientų nusakytu skausmo stiprumo ir vietos santykiu, išskiriami trys skausmo laipsniai: nežymus, vidutinis ir stiprus. Tikslas pasiekiamas tik ištyrus kūno apimties determinacijas (pirminė savybė) tiek, kiek šie skausmo laipsniai apima tris konkrečius matavimus. Įvertinus šiuos tris konkrečius matavimus pagal perforacijos procesą (audinio sužalojimą), straipsnyje skausmas pripažįstamas transcendentiniu momentu.

**Pagrindiniai žodžiai:** skausmas, Husserlis, intensyvumas, antrinė savybė, lokalizacija

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## Introduction

Throughout the history of phenomenology, the study of physical pain has always been the subject of countless debates. The classic classification of this experience is ordered between those who conceive it as intentional (Geniusas 2017; Escudero-Morales 2020; Serrano de Haro 2010) or as devoid of intentionality (Sartre 1956; Scarry 1985). Both positions are recognized for having set the standard in the phenomenology of pain, using different themes to defend their arguments. Although intentional arguments continue to be taken into account, the truth is that there has currently been a turn which seeks to establish a dialogue along with practical and empirical criteria (as with the definition of the *International Association for the Study of Pain* (IASP)) (Geniusas 2020). Even so, the said dialogue remains incipient, which means that certain aspects of these experiences are omitted, such as, for example, one of the leading themes in this research, specifically, intensity. In this sense, including the *Numerical Pain Scale* (NRS) or *Verbal Pain Scale* (VRS) only allows us to deepen the study characterized by privileging the description in the first person. Given this specific data, it is possible to approach the patient's point of view because it is through this mechanism that s/he recognizes the degree of pain s/he experiences.

Recently, in the philosophy of mind, some researchers have included pain intensity in their analysis (Klein & Martínez 2019). Despite the validity of this study, it remains unclear how pain is experienced in the first person and how it appears before the consciousness<sup>1</sup>. In this sense, Husserl's genetic analyses studied in the *Analyses Concerning Passive Synthesis* (APS) make it possible to study this aspect of the experience. From this, and by accompanying it with the characteristic localization of pain in a region of the Body, it is possible to propose the following: pain meets the requirements of being recognized as a Secondary Quality. More precisely, the present investigation seeks to identify pain with the same characteristic that the color has, insofar as the color has the particularity of covering "the surface of the corporeal thing in a determined way" (Husserl 1989: 34). For this, the central argument revolves around recognizing the pain-color analogy in a literal sense, thus making it necessary first to study different aspects of pain, among which is the above outlined intensity.

There are several steps to examine in order to determine how to achieve this goal. First, through the localized sensation notion of *Ideas II*, it is studied how pain seems to cover a region of the Body. Second, by contemplating the concept of affection (*Affektion*), it is examined how pain appears before a certain level of intensity, be it mild, moderate, or severe. Third, the intensity/location relationship of pain is investigated (the classical report of patients with appendicitis) through the description of intensity and location studied in (1) and (2). Fourth, considering the results of the preceding chapters, the study is directed toward the necessary relationship between the secondary and the primary quality. Since

<sup>1</sup> Studies framed in the philosophy of mind have seen significant evolution in recent years when studying pain. Theories identified with the analysis of sense-datum, perceptual, representationalist, etc., have provided new proposals. For a general exposition, see Aydede 2005: 1-58 and 2019.

the Body holds extensional determinations, it is shown that pain covers three measures correlated with pain intensities and location. Fifth, it is pointed out how pain covers the measures corresponding to the appendix perforation process (outlining a dialogue between phenomenology and pain science). Sixth, once the analogy has been defended literally, it is briefly stated that pain is a transcendent moment, an object of perception.

## 1. Secondary quality and location of pain

One of the topics analyzed by Husserl in *Ideas II* includes the definition of secondary quality. This theme has usually been delimited by John Locke, a representative of English empiricism, when he points out that secondary qualities are “powers to produce various sensations in us by their primary qualities” (Locke 1975: 135). Unlike him, Husserl proposes his view of the matter within the framework of his transcendental phenomenology. This is how in the reduction to the constitution of material nature (in the first part of *Ideas II*), he determines it along with the primary quality. For this philosopher, “The thing knows no other extensive determinations besides pure corporeality (the primary quality) and the modifying sensuous qualities, the ‘qualifying’ secondary qualities” (Husserl 1989: 34). Among the secondary qualities, the odor, heat, and color are highlighted. At the same time, the shape, figure, and extension are recognized as the primary qualities (*ibid*). In the case of the color, the qualification of a thing is determined by how the color qualifies that thing. Thus, the table in front is determined by a specific color that qualifies its extension. For this work, the most significant thing is the characteristic that Husserl attributes to the color insofar as it has the distinctive feature of *covering* an extension. In other words, “the momentary coloration of a thing covers the entire outer surface of the corporeal thing in a determined way” (*ibid*). The table in front with a specific extension is the perfect example that the color ‘brown’ covers it.

Now, we may wonder whether pain has the capacity to *cover*, such as the brown color, when it covers the surface of a table. A satisfactory answer is born from the approach of an analogy between *pain* and *color*. However, the first problem that stands out is related to the thematic field in which they are defined, thereby making said analogy supposedly incompatible. Unlike the secondary quality, Husserl refers to pain within the inquiry into animal nature (*ibid*: 96). Pain, far from being a property of the physical thing (*Körper*), is of the Body (*Leib*)<sup>2</sup>. More precisely, pain is the type of experience characterized by being a localized sensation (*Empfindnis*) (*ibid*: 152). Given that the Body (*Leib*) is the bearer of this type of localized sensation, considering that it possesses the particularity of *covering* a surface seems inappropriate at first.

Notwithstanding this, let us dwell for the moment on the sensory nature of this experience to see if we can find a path that allows us to reflect on this analogy. First, it should

<sup>2</sup> The exact terminology used by the translation of *Ideas II* will be taken, namely: a) Body (*Leib*) – with a capital letter – as an organic Body and as a carrier of localized sensations, and b) body (*Körper*) – without a capital letter – as a physical thing.

be noted that pain is an experience that can be approached phenomenologically through Husserl's philosophy. Indeed, this experience affects the Body, particularly if viewed in the light of the so-called "localized sensations" (*ibid*). Generally defined as "All sensings pertain to my soul" (*ibid*: 157), pain, as a first-person experience, is nothing but another sensation that reflects the distinction with a material thing (*ibid*: 100). These sensations that take place in the Body are their own because the Body is not merely a thing, in fact, "I find on it, and I sense 'on' it and 'in' it" (*ibid*: 153). Since pain is a localized sensation, its location is experienced somewhere in the Body. Indeed, it can be located when it is indicated that one suffers a headache, a backache, and a toothache.

It would seem enough to say that pain *covers* where it is felt, that is, where it is located. For example, the pain felt in the spine after a poorly performed exercise, the headache that invades during a work activity, or the well-known toothache. In each of these cases, the pain, such as a particular color, would appear to *cover* a specific part of the Body, be it the spine, the head, or the tooth, respectively. In the same way, as the yellow color covers the part where the painted sun is located in a painting, the pain would *cover* part of our Body in the location of the tooth or head. Despite this, we fall into an at least metaphorical consideration. Pain, like other localized sensations, plays a constitutive role in the Body. In fact, "The Body as such can be constituted originarily only in tactuality and everything that is localized with the sensations of touch: for example, warmth, coldness, pain, etc." (*ibid*: 158). Rather than being in the realm of material things, pain is paramount when it comes to the Body. Thus the Body "becomes a Body only by incorporating tactile sensations, pain sensations, etc. – in short, by the localization of the sensations as sensations" (*ibid*: 159). This is the case with internal and external organs. When the pain sensation is present or introduced into them, they all become a Body. The reason is that only in the Body "the stratum of localized sensations" (*ibid*: 160) is found, among which, there is the pain.

Regardless of this methodological incompatibility, for the moment, it is possible to point out, clearly in a figurative sense, the following: pain *covers* where the stratum of the localized sensations of appendix pain is. At this point, it is worth asking if there is a way to conceive the pain-color analogy not so metaphorically. Advancing in this direction implies elucidating pain in another field. Without forgetting what has just been considered, there exists another notion in the same work of Husserl through which it is possible to characterize it by *covering* an extension. The so-called phenomenon of affection (*Affektion*) that Husserl studies in *APS* would allow pain to be thought of in analogy, not only with a specific color, but rather with colored light. In this sense, the study will focus on how it appears, considering at the same time the appearance of pain. Accordingly, it will be possible to study one of the most complex aspects when examining the experience of pain, namely, the so-called intensity that it can reach. Considering that "Affections always come in degrees of intensity" (Van Mazijk 2018: 346), it will be examined when pain affects the ego. Thus, according to another perspective, an attempt will be made to elucidate how pain *covers* a particular extension.

## 2. Intensity of pain

The analysis of affection investigates the particular genetic link between the ego and an object. In this sense, “By affection we understand the allure given to consciousness, the peculiar pull that an object given to consciousness exercises on the ego” (Husserl 2001: 196). Strictly speaking, affection:

[...] is a pull that is relaxed when the ego turns toward [the object] attentively and progresses from here... disclosing more and more of the self of the object, thus, striving toward an acquisition of knowledge, toward a more precise view of the object (*ibid*).

Accordingly, the attentive ego knows the object to the extent that it yields to its attraction. A different case is when the so-called affective tendency fails to attract the ego, when “Sensible data (and thus data in general) send, as it were, affective rays of force toward the ego pole, but in their weakness do not reach the ego pole, they do not actually become for it an allure that awakens” (*ibid*). The presupposition of the affection cannot be reached as there is no “prominence above all” (*ibid*). This means that the affective force rays are not strong enough to attract the ego.

By the preceding, the following definition of the affection proposed by Husserl should be taken into account: “Insofar as the most original affection is to be seen as the affection generated in the impressional present, contrast is then to be characterized as the most original condition of affection” (*ibid*: 197). Contrast is understood synthetically as “Everything that is in relief for itself within a field comes into relief from something precisely in this field. This yields a specific, fundamental concept of differentiation” (*ibid*: 185). According to this definition, pain is a contrast that alters its sensitive field, the tactile field. In the case of sufficient intensity, pain is sensible data with such prominence that it attracts the ego. In this way, this prominent data is such by the contrast this affection has. Even so, it must be borne in mind that “The same contrast can, for instance, actually exercise an allure on the ego, [and] another time it can be that the ego will not be reached by the affective tendency” (*ibid*:197). If mild pain is kept in mind, everything indicates that the ego is not reached by the affective tendency, compared to the case of moderate pain, where there is necessarily an attraction.

Of course, pain in some parts of the Body is a paradigmatic case in the light of the concept of affection. However, Husserl does not examine affection according to “extreme cases,” such as pain with severe intensity. In this sense, it does not discuss the cases in which they can “make such a forcefully efficacious prominence that they drown out, so to speak, all competing contrasts, [drowning out] not only the affective particularities of the [tactile] field but also the particularities of the other fields” (*ibid*). He considers cases where intensity is sufficient without examining severe intensity data. In this way, “diverse objects can be prominent for themselves through contrasts” (*ibid*).

Now, when Husserl examines the “Laws of the propagation of affection” (*ibid*: 198), he determines the affection in the light of the concept of awakening (*Weckung*). This concept is defined as follows: “Where the object is concerned, we can also characterize affection

as the awakening of an intention directed toward it (i.e., the object) (*ibid*). Indeed, an attractive object awakens an intention directed precisely toward it. The attraction that an object can exert awakens in the ego an intention that invites one to turn attentively. This awakening finds in the mode of “attentiveness, grasping, the acquisition of knowledge and explication” (*ibid*) different types of affective executions. In terms of pain, something special happens. The object in question is precisely the pain. When it comes to appendix pain, an intention is awakened, directed precisely towards it. However, the pain may not necessarily arouse an intention since the pain may not be of sufficient intensity. The ego awakens to pain with a relevant intensity, such as moderate pain, which is difficult to ignore.

Considering that affection consists of the “formation of unity itself, the actual formation of hyletic groups and particular data existing for themselves” (*ibid*: 200), Husserl emphasizes the need to consider affection as the determinant of that formation. He exemplifies his argument by visualizing *Loretto Heights* and the flashes of a series of lights in the *Rhine Valley*. Husserl puts forwards the case where a string of lights:

Immediately becomes prominent affectively and unitarily without, incidentally, the allure having therefore to lead to an attentive turning toward. That in one stroke the string of lights is affective as a whole is obviously due to the pre-affective lawful regularities of the formation of unity (*ibid*: 202).

It may happen that “One of the lights suddenly changes its coloring from white to red with sufficient intensity. Or we only alter its intensity; it becomes especially luminescent” (2001: 202). The lights begin an affective propagation from an intensity equivalent to zero to pass to an attractive intensity. This light, being sufficiently intense, allows an ‘articulation’ of something inarticulate at first. Strictly speaking, “a new affection has ensued and that an awakening ray issues from it” (*ibid*: 202–203).

According to this context, Husserl tries to determine if it is possible to consider affection as an essential condition of Unity. He establishes in §34 the unification of the affection and the formation of Unity based on “the accomplishment of hyletic passivity, that fashions a constant field of pregiven objectlike formations for the ego, and subsequently, potentially a field of objectlike formations given to the ego” (*ibid*: 210). The form of objective becoming is determined insofar as “Any kind of constituted sense is pregiven insofar as it exercises an affective allure, it is given insofar as the ego complies with the allure and has turned toward it attentively, laying hold of it” (*ibid*: 210). Affection plays a role in forming Unity, but it is essential in this objective becoming. This constitution finds an essential motive in the affection since it is through this that an object is known; that is, it is to the extent that something allures that consciousness is attracted. The ego is at the disposal of what happens in that process. Although it “lives” (*ibid*: 210) in its actions, the ego finds a complement in a field that, in principle, it does not control. Thus, what is constituted is conditioned, both by something that affects and by the presence of the attentive ego.

It was already possible to visualize the so-called Gradation of affection. One can observe, for instance, the prominent datum in itself where “the affection has the special sense of a specific affection on the ego, and in doing so meets the ego, excites it, calls it to action, so to speak, awakens and possibly actually rouses it” (*ibid*: 214). The difference in

degrees is related to the presence of the ego and the “materially relevant intensity” (*ibid*: 215) that eventually holds data in a sensitive field. In this way, it may be the case of mild pain, where the ego is not mainly affected, or moderate and severe pain, in which the ego is obliged to turn on this data. What is at stake, among other things, is the “Gradation of vivacity” (*ibid*: 216). For example, if a datum is not strong enough, its vivacity is equivalent to a lack of affective strength.

### 3. Relationship intensity/location of pain

Faced with this scenario, the conditions on which the eventual pain-color analogy was conceived change. Despite the thematic deviation that Chapter Two entailed, the inclusion of light in the investigation allows us to see the color *covering* an extension in another way. The pain must no longer be seen in consonance with color but with the intensity of colored light. The pain felt in the lower right part of the abdomen, where the appendix is located, has precisely the intensity in common with colored light. Like colored light that “becomes especially luminescent” (*ibid*: 202), pain intensity can fluctuate between degrees. If a certain degree of pain affects the ego, it reveals a fundamental fact: the appearance of an internal organ. Thus, the appearance of something unknown to those who suffer particularly for the first time from appendix pain is evident. However, this appearance depends on how intense the pain suffered is. Therefore, it remains to distinguish the different degrees of pain the appendix can reach. The recognized and traditional Verbal Rating Scale (VRS) (Williamson 2005) will be used as a clinical instrument to measure the patient’s pain. In this way, this study distinguishes among three degrees of pain, elucidated according to the affection examination.

1° Mild intensity (Williamson 2005: 799):

It is a pain that does not fully allure the ego. It is recognized as being a nuisance, attended by the ego only secondarily (Husserl 1982: 224). This case is analogous to the string of lights in the *Rhine* to which Husserl refers. Indeed, any nuisance, such as flashing lights, “immediately becomes prominent affectively and unitarily without, incidentally, the allure having therefore to lead to an attentive turning toward” (2001: 202). Nuisance, like mild pain, is still an affection that has ensued because of its particular intensity. In this sense, the mild intensity finds in the figure of the lights an ideal example, mainly when “One of the lights suddenly changes its coloring from white to red with sufficient intensity. Or we only alter its intensity; it becomes especially luminescent” (*ibid*: 202). According to this, the attentive ego is, to some extent, aware of discomfort when it comes to this intensity. While the ego may run its *normal* course, it is also true that nuisance still exists on the actuality horizon. Due to this intensity, pain does not appear in its entirety. Ultimately, this degree of intensity has a lack of affective strength not equal to *zero*.

2° Moderate intensity (Williamson 2005: 799):

Pain intervenes so that it allures the ego’s current attention. This pain “has the special sense of a specific affection on the ego, and in doing so meets the ego, excites it, calls it to action, so to speak, awakens” (Husserl 2001: 214). Thanks to the contrast and

subsequent sensible “relief,” the attentive ego is attracted by the allures exerted from where the pain is located. Undoubtedly, “the ego complies with the allure and has turned toward it attentively, laying hold of it” (*ibid* : 210). The ego’s focus can only be on that specific place from which the affection originates. Ultimately, because it has a materially relevant intensity, the appearance of the pain is unquestionable.

3° Severe intensity (Williamson 2005: 799):

Here, pain subdues and oppresses current attention. This intensity is identified with the so-called extreme cases, where “an affection, like that of extreme contrast (‘unbearable pain’), can suppress all other affections, or most of them” (Husserl 2001: 518). Indeed, “the particularities of all other sensitive fields” (2001: 197) are drowned out in the face of the tactile allures of intense pain. Because of how excessive this severe intensity can be, it can be difficult to classify it on a scale. Strictly speaking, the pain appears, forcing the ego to go exclusively toward it.

Now, the similarity between pain and colored light means that the analogy is possibly now conceived in weakly metaphorical terms. Both cases have in common that they can be measured on an intensity scale. However, if it is accepted that pain *covers* where the stratum of localized pain sensations of the appendix is, it is also necessary that *it covers* its surface in the same way as light does. In the *Loretto Heights* example, each light covers the surface where the bulb is located. Depending on the size of the bulb, the light intensity covers a specific extent of this thing. Unlike this material criterion, the location of appendix pain is far from similar. The classic description that patients report when they experience acute appendicitis shows a specific relationship between the location and pain intensity. More precisely, the relationship shows a corresponding specific location for a particular pain intensity (Humes & Simpson 2006; Petroianu 2012; Jones 2022). At least 50% of patients report that the vague pain symptom associated with appendicitis is located in the periumbilical zone (navel area), migrating to the right iliac fossa when the pain increases (Petroianu 2012: 115). In this sense, three stages of the intensity/location relationship are classically distinguished:

- a) 1° Vague pain in the periumbilical area (Humes & Simpson 2006: 534). Instead of being located where the appendix is located, in this first case, the pain is referred (Humes & Simpson 2006: 530). The patient describes this pain as tolerable for at least a week.
- b) 2° Most prominent pain felt near the appendix (Humes & Simpson 2006: 534). This pain continues to be referred to since it *covers* almost the entire abdomen. The pain is no longer tolerable, so medical attention is necessary (*ibid*).
- c) 3° Much more considerable pain in the right iliac fossa of the abdomen (Humes & Simpson 2006: 534). This pain is located precisely where the appendix is. It is pertinent to perform surgery to remove the appendix (*ibid*).

According to this, a question arises whether there is a way to associate, on the one hand, the patient’s intensity/location relationship and, on the other hand, the stratum of localized sensations and the pain intensity scale. Affirmatively, we may consider the patient’s data through the phenomenological description exposed here. In this way, the



pain-color analogy is re-examined<sup>3</sup>. In this sense, it will be demonstrated how pain *covers* a specific area when appendicitis is experienced.

- a. 1) Vague pain/Navel location: In phenomenological terms, this description is equivalent to a nuisance, which means that it is mild pain. It is taken care of secondarily by the ego since it does not manage to affect it entirely. With the pain being tolerable for a week, the patient can continue their ordinary life course, even when the nuisance continues to exist on the actuality horizon. Since it is felt around the navel, this pain is not felt in the stratum of localized sensations of the appendix. In short, the pain, unlike the colored light on the blister, *covers* an area distant from where the appendix is. Thus, this pain *covers* the middle part of the abdomen.
- b. 1) More prominent pain/Abdominal area location: When this pain is experienced, the ego turns towards it since it is no longer a nuisance. Since the ego is awakened and only focuses on this affection, the corresponding intensity is the equivalent of a moderate degree. In addition, this pain, like the previous one, is not felt where the stratum of pain sensations of the appendix is located. In short, this pain *covers* the middle area to the lower right of the abdomen. The particularity of this pain is that it *covers* almost the entire abdominal area.
- c. 1) Considerable pain/Right iliac fossa: In phenomenological terms, this description is equivalent to unbearable pain, which means that it is severe. The attention of the ego is subdued by it. Therefore, the operation is the only procedure that would relieve the patient. Additionally, this pain is felt precisely where the pain sensation stratum of the appendix is located. Simply put, this pain *covers* the location of the appendix and its nearest area, just like the colored light covers its bulb.

#### 4. Pain and the physical body (*Körper*)

At this point, it is evident how complex it is to conceive pain as a secondary quality. Although the pain seems to *cover* an extension, as does the colored light, it still gives the feeling that we are at a dead end. Even though both can be evaluated through intensity, it is still true that the respective location is quite different. Pain does not *cover* like colored light since, in the case of mild and moderate pain, it *covers* a surrounding spatial area. More precisely, when mild pain is experienced, it *covers* an area away from the location of the appendix. Even so, when severe pain is experienced, things seem to be similar regarding the location of the colored light. In this specific case, the pain *covers* the location of the appendix precisely, just as the colored light does for the bulb.

Even if the above is accurate, we are still embroiled in a metaphorical scenario. We are constantly faced with an ontological problem because when color covers an extension, it

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<sup>3</sup> From now on, when we refer to the pain-color analogy, we understand, but only in this context, the color specifically as colored light.

does so as a secondary quality of a material thing instead of a quality of the Body. However, we may wonder whether there is a way to think of the pain-color analogy literally. The answer is affirmative, precisely if, on the one hand, we take into account what has been studied up to now, and, on the other hand, we direct our attention to the corresponding primary quality. Up to now, the Body definition has predominated when analyzing pain as a secondary quality. Thus, it was possible to explain how pain *covers* where the stratum of localized sensations is, while considering, at the same time, the intensity that it can reach. However, although it may seem paradoxical, if the focus is directed toward the primary quality, it is possible to conceive pain as a secondary quality in a literal sense. The main reason for this has to do, among other things, with the evaluation of the following principle: “coloring without extension is unthinkable, just as is extension without coloring” (Husserl 1989: 138). Colored light is inconceivable without the extension of the bulb because the color must necessarily be on a surface. However, this need is also present when we refer to pain, mainly because the Body also has an extensive determination. Indeed, the definition of extension corresponds fundamentally to the physical body (*Körper*). For Husserl, the Body is constituted in two ways:

Hence the Body is originally constituted in a double way: first, it is a physical thing, *matter*; it has its extension, in which are included its real properties, its color, smoothness, hardness, warmth, and whatever other material qualities of that kind there are. Secondly, I find on it, and I sense “on” it and “in” it: warmth on the back of the hand, coldness in the feet, sensations of touch in the fingertips. (1989: 153).

According to this passage, it is possible to claim that all the organs hold the definitions of a thing. Not only do they feel the cold in their feet or whatever sensitive example to use, but they can be defined to the way a material property is determined.

Following the previous, the appendix also has material properties that are added to the sensitive ones. In this way, opening this area of analysis enriches the study of the Body. In effect, the orientation of the examination is directed towards the delimitation of the appendix as a thing. Even so, this material-extensive determination that the appendix has implies a significant consideration: the extension of this organ is unknown since it is not a thing among the things of the world. Health professionals are probably aware of “the corporeal extension-determinations of a thing, magnitude, form, figure and the like (ideally speaking: the geometrical determinations)” (*ibid*: 33) of all the organs of the human body. However, not everyone knows this because the appendix is internal and not external from a strictly material delimitation. In this sense, even when it is not available for everyone to see, this internal thing necessarily has a specific extension.

Strictly speaking, the point to underline is the following: the appendix has its extension since, by virtue of the dual structure of the Body, the properties of a thing also correspond to it. Given this Body structure, it is feasible to conceive the analogy in a literal sense, as pain necessarily covers an extension, just as color covers said primary quality. Unlike the light bulb, whose standard measurements fluctuate between approximately 6cm to 20cm (at home or in public lighting), the size of the appendix depends on the patient’s

physiology. On average, the standard size of the appendix is estimated at 9 cm long and 6 mm in diameter. Accordingly, pain covers said extension size of the appendix, just as “the momentary coloration of a thing covers the entire outer surface of the corporeal thing in a determined way” (*ibid*: 34).

In any case, it is worth asking what measures pain covers, while considering both the intensity/location relationship and the referential size of a person of 1.80 cm. tall and 75 kg.:

- a. 2) 1° (Mild intensity/Navel location): mild pain covers approximately 10 cm., corresponding to the periumbilical zone.
- b. 2) 2° (Moderate intensity/Abdominal location): moderate pain covers approximately 50 cm., corresponding to the abdominal area.
- c. 2) 3° (Severe intensity/Appendix location): severe pain covers approximately 9 cm in length and 6 mm in diameter, corresponding to the internal organ.

## 5. Pain and tissue damage

In short, the analogy that has been proposed is based on the fact that pain covers the appendix since it necessarily has a specific extension. Although severe pain is the only case in which it covers like colored light, it is true that mild and moderate pain also cover, clearly ignoring the characteristic location. In any case, the analogy finally found an argument that takes it literally. Even so, one aspect of the appendix pain has been overlooked thus far. The clinical picture in which the patient finds himself is likely related to appendicitis. In particular, this disease consists of the already mentioned phases of pain, and inflammation, among other symptoms (Jones 2022). However, the scenario changes if the focus is redirected toward the perforation process of acute appendicitis (Ekici et al., 2018). First of all, the extensional determinations of the appendix leave its average measurement, thereby altering the known 9 cm long and 6 mm approximate diameter.

However, the inclusion of the perforation process entails another model of analysis. The reason lies in a simple fact: a type of tissue damage is introduced. If it is conceived as proposed by the IASP, an inquiry where it is present supposes a fundamentally empirical investigation. Far from having a secondary role, it is essential when defining pain from this perspective: “pain is an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage” (Raja et al., 2020). In this sense, the perforation process is not exactly an isolated issue when pain is studied from this point of view. Its inclusion implies entering an investigation where Husserl’s phenomenology is not alone. If this new line of research is accepted, a productive relationship of Mutual enlightenment is established (Gallagher 1997) between both positions. It would be possible to project a tentative work to naturalize the phenomenology of pain by “[...] letting phenomenology engage in a fruitful exchange and collaboration with empirical science” (Zahavi 2010: 8).

However, we may ask if it is plausible to think that pain covers the extensional determination of the appendix, also considering the perforation process. Indeed, it is if attention is paid explicitly to the length/diameter ratio of the appendix. The work of Ekici

(2018) highlights that there is a correlation between patients with acute uncomplicated appendicitis and no perforation of the appendix (123 patients) compared to patients with acute appendicitis and perforation of the appendix (21 patients) (Ekici et al., 2018: 391). The correlation stems from a pathological analysis that shows that the “critical stage of perforation” (*ibid.*: 392) is directly related to the length/diameter ratio of the appendix. If the length/diameter ratio is greater than 10 ( $>10$ ), there is no risk of perforation. On the other hand, if the length/diameter ratio is less than 10 ( $\leq 10$ ), the perforation likelihood increases significantly (*ibid.*: 392). Strictly speaking, the study tries to maintain that it is possible to prevent the critical stage by verifying the ratio of the appendix.

At this point, it is necessary to demonstrate the measures that cover the pain considering the intensity/location relationship, the referential size of a person of 1.80 cm tall and 75 kg, and the length/diameter ratio of the appendix in appendicitis is:

- a. 3) 1° (Mild intensity/Navel location): mild pain covers approximately 10 cm, thereby corresponding to the periumbilical area, not including the length/diameter ratio greater than 10 ( $>10$ ) of the appendix.
- b. 3) 2° (Moderate intensity/Abdominal location): moderate pain covers approximately 50 cm, thus corresponding to the abdominal area, including the length/diameter ratio greater than 10 ( $>10$ ) of the appendix.
- c. 3) 3° (Severe intensity/Appendix location): severe pain covers approximately the length/diameter ratio less than 10 ( $\leq 10$ ) of the appendix.

## 6. Pain as a transcendent moment

Given the above, it is tenable to establish the pain-color analogy as there is a necessary pain/extension correlation. Nevertheless, this result is far from the only one regarding Husserl’s definition of secondary quality. In fact, for him, color not only covers an extension but is also a “transcendent moment.” Indeed, “Like the perceived thing as a whole, whatever parts, sides, moments accrue to it necessarily, and always for the same reasons, transcends the perception regardless of whether the particular property be called a primary or a secondary quality” (Husserl 1982: 87). This statement brings with it relevant consequences in the study of pain, specifically if it is studied from a perceptual point of view.

To evaluate this proposal, consider the following situation. When the pain of the appendix appears, it is possible to notice that the pain is only part of a whole, or in other words, it is only a part of the whole Body. Indeed, the pain occupies a place within the entire Body since its location is in the lower right of the abdomen. In this sense, if it is the case of moderate or severe pain, it appears, leaving the entire Body in the background. The whole Body would be the indeterminate horizon of an event that happens only in a part of that Body. In response to this situation, the indicated proposal arises because when a brown table appears, it leaves the other objects in the living room in the background. The feasibility of this analogy takes on even greater weight through the following consideration. If pain is conceivable as a secondary quality, it will imply that it could be the object of perception, just as any secondary quality of an external thing is perceived.

Now, this part of the paper must consider what Husserl himself indicates in *Ideas I*. In the framework of his analysis of perceptual consciousness, he emphasizes the distinction between the *Really Inherent Composition* of Perception and the Transcendent Object (Husserl 1982: 86). To the latter correspond the so-called “transcendent moments” (*ibid*). Thus, a secondary quality (such as ‘brown’) is transcendent to perception, just as is the external object. Still, the color has a specific role when it comes to perception. What concerns the really inherent composition, Husserl declares that the color “appears, but while it is appearing the appearance can and *must*, in the case of a legitimating experience, be continually changing. The *same* color appears ‘in’ continuous multiplicities of color *adumbrations*” (*ibid*). Bearing both passages in mind, it is clear that Husserl considers the color in two fields of analysis.

Likewise, it happens with the case of pain since it cannot only be identified as a transcendent moment. Pain also appears in multiplicities of *adumbrations*. Indeed, when appendix pain appears, it leaves the entire Body in the background, which shows that it is located in a part of the whole Body. However, if the analysis is appropriately perceptive, the color-pain analogy is even more evident for the following reason: the pain is adumbrated, just as the brown table is adumbrated when it is perceived. Perception is directed primarily towards that secondary quality, which appears just as objects appear in the world. It focuses on the “content of adumbration” (*ibid*: 88) of pain without paying attention to what surrounds it, that is, the entire Body. If this is so, this inquiry involves noetic-noematic considerations. Briefly, it should be said that this content of adumbration, as *hyletic* matter, “is animated by noetic moments” (*ibid*: 238). Perhaps the most crucial noetic moment in the eyes of different phenomenologists when pain is analyzed is attention (Serrano de Haro 2010). Moreover, this is so because Husserl states that attention presupposes “a noetic core” (Husserl 1982: 223). Since pain is adumbrated just like the color, a noematic content corresponds to it due to the noetic-noematic correlation without exception (Husserl 1982: 226). The reason is that “what is presented or adumbrated in it as multiplicity belongs in the noema” (Husserl 2013: 321). In this way, there is a noematic content of pain perception.

## Conclusion

This work has proposed to consider pain as a secondary quality. The research has systematically tried to demonstrate that it is possible to establish a literal pain-color analogy since both cover a particular extension. For this, it was necessary to explain 1) how the pain precisely covers the location of the Body; 2) as soon as it appears with a mild, moderate, or severe intensity. Once this had been done, 3) the classical intensity/location relationship was explored through phenomenological inquiry. Regardless of the usefulness of this part, the analogy did not meet the literal requirement, thereby making it necessary to examine the corresponding primary quality. 4) Just as the color covers an extension, it was shown that pain covers an extension because the Body also holds extensional determinations. Thus, three measures directly correlated with the intensity/location relationship

were exposed. 5) In this same line, the perforation process was included in the analysis. Outlining a potential dialogue between phenomenology and the science of pain, the three measures that pain covers were exhibited. Finally, 6) pain was identified, like the color, as a transcendent moment, which means that it can be the object of perception.

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