

**The man who did not know how to calculate:  
Paradox and complexity in Pablo Neruda's *Residencia en la tierra*.**

El hombre que no sabía calcular:  
Paradoja y complejidad en *Residencia en la tierra*, de Pablo Neruda.

DOI: 10.32870/revistaargos.v12.n30.8.25b

**Yandrey Lay**

Universidad de Guanajuato  
(MEXICO)

CE: [yandreylf@gmail.com](mailto:yandreylf@gmail.com)

 <https://orcid.org/0009-0004-9572-8930>



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

**Received:** 02/17/2025

**Reviewed:** 10/03/2025

**Accepted:** 05/05/2025

**Summary:**

Jorge Wagensberg, Spanish physicist and complexologist, said that art is the communicability of unintelligible complexities, that is, a tool (or medium) that can reproduce certain complexity, although not in a totally intelligible way. The first *Residencia en la tierra* (1933), according to Amado Alonso, is recognized because its poems suspend the causal links between phenomena, overlap the different states of matter, and eliminate the limits between subject and object. Such features reflect central postulates of quantum physics, which are particularized here through the thought of the Austrian physicist Erwin Schrödinger. Accordingly, the main purpose of this article is to elucidate these links with the support of comparative literature. Another of our objectives is to analyze the resources used by the poet to convey and express the complexity of his vision. This hybridization between both fields, poetry and quantum physics, somehow enriches the philosophical debate on what reality is and how we relate to it.

**Keywords:** Pablo Neruda. *Residence on earth*. Poetry and quantum physics. Epistemology of poetry.

**Resumen:**

Jorge Wagensberg, físico y complexólogo español, decía que el arte es la comunicabilidad de complejidades ininteligibles, o sea, una herramienta (o medio) que puede reproducir determinada complejidad, aunque no de forma totalmente inteligible. La primera *Residencia en la tierra* (1933), según Amado Alonso, es reconocida porque sus poemas suspenden los nexos causales entre los fenómenos, solapan los diferentes estados de la materia, y eliminan los límites entre sujeto y objeto.

**How to cite this article (APA):**

(Lay, 2025, p. \_\_)

Lay, Y. (2025) The man who did not know how to calculate: Paradox and complexity in Pablo Neruda's *Residencia en la tierra*. *Revista Argos*. 12(30). 72 - 71. DOI: 10.32870/revistaargos.v12.n30.8.25b.

Tales rasgos reflejan postulados centrales de la física cuántica, que se particularizan aquí a través del pensamiento del físico austriaco Erwin Schrödinger. De acuerdo con ello, el principal propósito de este artículo es dilucidar esos vínculos con el apoyo de la literatura comparada. Otro de nuestros objetivos es analizar los recursos de que se valió el poeta para trasladar y expresar la complejidad de su visión. Esta hibridación entre ambos campos, poesía y física cuántica, enriquece de alguna manera el debate filosófico sobre qué es la realidad y cómo nos relacionamos con ella.

**Palabras clave:** Pablo Neruda. *Residencia en la tierra*. Poesía y física cuántica. Epistemología de la poesía.

It is early 1934. It is a little more than a year since Adolf Hitler became Chancellor of Germany and, last December, the Swedish Academy awarded the Nobel Prize in Physics to Erwin Schrödinger and Paul Dirac for their contributions to the understanding of quantum theory. Schrödinger is a unique character: he is one of the scientists that Hitler will persecute because his conception of physics (Schrödinger's) is heretical, because he is Jewish, because he has managed to bring together in the same house his wife and his mistress (his mistress, with whom he has or will have a daughter).

Schrödinger is also the author of one of the most distressing metaphors of the 20th century, with which he elevated a cat (his, Schrödinger's) to the category of myth. Sitting in an armchair in Austria or Germany (the place is important, but as imprecise as Schrödinger himself), the physicist imagined that he was enclosing his cat in a box next to a vial of poison. The release of the poison depended on the decay frequency of a radioactive element. According to the laws of quantum mechanics, for a given time a mathematical equation could predict, but only with a certain probability, whether the poison was still in the vial. So, while in the description of the system the cat was statistically alive and dead, in reality it could only be in one of the two states.

In this still young 1934, Pablo Neruda is appointed Chilean consul in Barcelona. His boss, a diffuse civil servant whose name is remembered only for appearing in this story, realizes that Neruda barely knows how to subtract and multiply, and that simply any division is beyond his understanding (Neruda's understanding, of course). So, as a matter of compassion or sheer convenience, he dispatches the poet to Madrid, where he assumed he wouldn't need to use calculus, warning him: "Pablo, you must live in Madrid. There is poetry there. Here in Barcelona there are those terrible multiplications and divisions that don't want you. I am enough for that" (*Confieso*, 2004, p. 142).

It is most likely that Neruda would never have understood how the life of a cat could hang on a mathematical equation, nor would he have understood it even if Schrödinger himself had explained it to him. But both the poet and the bigamist physicist express the anguish of living in an incomprehensible, diffuse world, where reality can only be expressed with difficulty through language, always running the risk of ambiguity, insufficiency and chaos.

### Juan Ramón and Dámaso Alonso Meet

Was Juan Ramón Jiménez right when he wrote:

I have always considered Pablo Neruda as a great poet, a great bad poet, *a great poet of disorganization*; the gifted poet who does not quite understand or use his natural gifts. Neruda seems to me to be a clumsy translator of himself and others, a poor exploiter of his own and others' lines, who *sometimes confuses the original with the translation*; who *does not fully know his own language nor the language he translates from*? does not even understand what he knows how to read and interprets it with oblivion of what exists (Argüelles, 2003; italics mine)?

In 1940, when publishing *Poesía y estilo en Pablo Neruda*, Amado Alonso would hold a similar opinion, although quite nuanced:

They are poems of *formless content*, only to a certain extent [he says, referring to *Residencia en la tierra*]. There is always a reality represented -as we have seen in the special analyses of almost all the poems-; but, in the lines with which it is drawn, realistic strokes suddenly stop before becoming sufficiently significant, or are continued with others of unbridled fantasy: *real elements are presented on the same plane with others that are associated memories, sentimental explosions, fantastically figurative longings*. (1968, p. 163; italics mine).

Recounting the terms used we have: disorganization, confusion, laborious use of language, formless content, hodgepodge of disparate elements. Clearly they refer to a poetry that can be described as irrational, but which, in reality, as a vision, does not accept to offer a coherent image of the world if it

must sacrifice its complexity to do so. For this reason, Alonso affirmed: "in Pablo Neruda's art of presentation, the form is not presented with a finished drawing and profile, but with suggestive stains, as the impressionist painters did" (1968, p. 167).

Part of this effect is produced by the fact that in *Residencia en la tierra* pairs of antinomies constantly enter into dialectical conflict, in which each concept collides with its opposite, transforms into it and then resurfaces in the next verse, stronger and more challenging.

This is the case, for example, of the constructions "galope muerto" ("Dead gallop"),<sup>1</sup> "estímulos marchitos" ("Alianza"), but also of the more complex ones: "Morir deseo, vivir quiero" ("Cantares") and "seca en la humedad de las cosas" ("Cantares"), as well as in this fragment of "Tango del viudo":

Maligna ....

How much of the shadow in my soul I would give to have you back,

and how threatening I find the names of the months,

and the word winter what a mournful drum sound it has.

Note the contrast between the qualifier of "malignant" (dangerous, evil, harmful) and the desire of the lyrical subject to recover that which causes him discomfort or pain. The shadow in the soul, another paradox, is connected with that "evil" by means of a communicating vessel. The shadows of both antinomies attract each other and in this way the diffuse state of this love-hate relationship is configured: the desire to have her by his side is, at the same time, alive and dead.

In his analysis, Alonso conceded a point to Neruda:

[...] the intellectual is never poetic in essence, but the classical poet resolves the conflict by elaborating the intellectual artistically and making it a resonator of the essentially poetic. Of course, the risk is to let oneself be trapped by the lattice of the intellectual and the discursive and the poetic vanishes (1968, p. 171).

<sup>1</sup> The quotations of poems correspond to the referenced edition of *Residencia en la tierra*.

However, although Alonso considered that every stylistic particularity corresponds to a psychic particularity and that poetry oscillates between a coherent mode of feeling and a valuable mode of intuition (Domínguez, 2013, pp. 175-176), he also considered that "there are cultural, social, ideological, moral values, in short, historical values, that he cannot and does not want to disregard" (Domínguez, 2013, pp. 179), therefore perhaps it seemed too extreme to him that Neruda: "If we consider the poet's aggressive disregard for the intellectual elements of the poem, we see him advancing in his work between destructions and claudications" (Alonso, 1968, p. 171) and that the Chilean "like many modern poets, likes to leave the conflict ostensibly unresolved" (Alonso, 1968, p. 200).

### **Metaphors: Cognitive Maps?**

Hence, one of Alonso's conclusions, although he praises the renewal of poetic resources achieved by the Chilean author, was frankly discouraging:

It seems as if Pablo Neruda was sacrificing one aspect of his creation to another at every step; not to the total form, but to another aspect, so that also in that sense his poetry is disintegrated, because its totalizing and really constructive form is weak, the form that in each verse encloses the whole poem. The emphasis on the partial implies a disintegration of the total form (1968, pp. 174-175).

Nancy Nersessian tells in "In the theoretician's laboratory" that people process perceived information not in the form of equations or theorems, but through narrative patterns (Swirski, 2007, p. 111). This seems to be true. Despite its logical (or illogical) burden, the story of Schrödinger's cat is a little tale (horror, if you will) in which the ending has been dispensed with in order to construct a metaphor closer to how the world works.

Metaphors are maps that allow us to model, explain and carry out small experiments based on the information that we perceive reality. They have a representational character, hence the use of the term "metaphor", because perhaps it is impossible for language to apprehend the complexity of the world all at once. And, furthermore, it makes no sense to make maps if we do not know that, as a matter of principle, a



map will never be the same as the territory. This idea is not always correctly understood by those who privilege, in a unique way, a rational and exclusivist vision of the world:

It is difficult for a scientist [says historian of science David Galaty], especially a physical scientist, not to believe that with mathematics an inherent structure of nature has been discovered, a structure, therefore, not described metaphorically. And yet applied mathematics is one of the most fruitful resources of metaphors in science.

At a basic level, mathematical formulas are metaphors because, writing an equation of a general type, implies that the phenomenon described is like other phenomena also described by that type of equation. If, for example, a set of phenomena is described by a linear equation, this equation links them to all phenomena that can be similarly described by a linear equation ... (Vega *et al*, 2001, p. 84).

But here another problem becomes evident: metaphor is not only representational (exemplary), but can also be used creatively, that is, it can transform reality itself. This affirmation was defended by Paul Ricoeur when he made the following reasoning: if the role of language (or of any symbolism) is to remake reality, there is no other place in language where this action manifests itself with greater evidence, since metaphor infringes the established limits and establishes new relations within symbolism:

Metaphor is then presented as a discourse strategy which, by preserving and developing the creative power of language, preserves and develops the *heuristic* power deployed by *fiction* [...] metaphor is the rhetorical process by which discourse liberates the power of certain fictions to rewrite reality. (Ricoeur, 2001, pp. 12 and 13).

This is what happens with Schrödinger's cat, which moves from a deterministic conception of the world to another in which the possibility of determining which events occur, and which do not, is statistical and sometimes very diffuse. Similar is the vision of reality offered by Neruda in *Residencia en la tierra*, where, in Amado Alonso's opinion, the poet struggles with the rational:

[...] as with an enemy of the poetic; they fight and cannot stop fighting, because, even if they reduce it to dust, there the dust remains, claiming a place in the spotlight. It is a real struggle with

vicissitudes and not a mere task of demolition; sometimes one makes a pact with the enemy, sometimes one uses him as a springboard. (1968, p. 171)

For Ricoeur the creative part of metaphor goes hand in hand with poetry as a tensional conception of truth (2001, pp. 414-415): tension between subject and predicate, between literal and metaphorical interpretation, between identity and belonging. The tensions merge in an unfolded reference (what we could call "double meaning") and culminate in a paradoxical vision of reality: "to be as" means, simultaneously, Being and Non-Being.

In Neruda's work this tension is evidenced, as already mentioned, in a series of antinomial pairs that transform into one another, reinforcing the image of a dynamic, complex world, with a chaos that can sometimes be a source of order, but also frankly destructive and incomprehensible. Amado Alonso identified several of these antinomies (1968, pp. 214-333): substitution of the concrete for the immaterial, particularization of the generic, objectification of the subjective and subjectification of the objective, abstraction as a way of intensifying vision, complementary extremes and oneiric thought.

With respect to the latter, Alonso pointed out some features that would be useful to review here (1968, p. 333):

1. It tends to be strongly psychological, weakly logical, or what is the same: its content is strongly vivid matter, but with weak rational structuring.
2. It operates by means of concrete representations, with weakness (if not exclusion) of the operations of abstraction and formal chaining. Often the represented contents are simply juxtaposed without indication of the associating nexus, or the nexus is re-represented as new matter and content, not as a mere mental operation.
3. The particular laws of the different kinds of matter are not respected, so that suddenly some objects are represented with processes that correspond to others (melted pianos, rickety waves, extinguished rooms, exterminated photographs).

## The Fragmented Universe

Jorge Wagensberg, physicist and theoretician of Complexity Sciences, made the following reflection years ago:

[What to do if I can no longer separate the subject from the object of knowledge, if the observer alters the observation, if the creator cannot stop influencing what is created? What to do if a complexity cannot be decomposed into parts that explain its globality or if there is no way to identify cause-effect chains? What to do if there is no experiment or model to confront? (1998, p. 161)

Note that conditions similar to the features that Alonso attributed to Neruda's oneiric thought arise here: suspension of the causal links between phenomena, interpenetration of the different states of matter, elimination of the limits between subject and object. Concrete thought replaces abstract thought, and we are left with only the purest and hardest reality that we perceive through our senses.

What to do? Wagensberg proposed a solution that would seem heretical in the eyes of many: sweep away scientific principles and accept a single working hypothesis. What would this be? It is about the communicability of unintelligible complexities: given a situation as previously expressed, it would not be feasible to simplify the problem complexity but to create a mechanism by which this complexity can be recovered or reproduced, even if it is not intelligible, i.e., explainable.

Wagensberg asked himself: recoverable for whom? And here is his answer:

The terms recoverable or rededucible refer, of course, to myself. Such knowledge has the mission of activating, by way of a signal, my internal mechanisms that call back to the original complexity. It is therefore, in principle and fundamentally, a self-communication: I have elaborated an image through which my mind communicates with itself (1998, p. 108).

The knowledge elaborated by this procedure is art. The artistic act is a miracle. And in our history there are enough statements for us to believe in the viability of art (1998, p. 162).



The stylistic resources used by the author of *Residence on Earth* often lead to this goal, exceeding the limits of rationalist thought. This is neither positive nor negative, it just is. Neruda embarks on a description of that ambiguous, fragmented, overlapping, complex and contradictory world that rationalism cannot fully understand, but of which the poet manages to give us a disconcerting and, therefore, very close image.

When he says, for example, "opaque sound of shadow" ("Night Collection") he refers to the possibility that the sound of the shadow usurps a quality that actually belongs to the color of the shadow (qualifying displacement). Or when, in the same poem, he constructs the image "kissing step", which could mean that walking has the lightness, sweetness or muffled sound of a kiss (a relationship that only exists *a posteriori*, and not *a priori*, because this image, instead of revealing a similarity, creates it).<sup>2</sup>

Another of the tools Neruda uses to convey the complexity of the world is what Carlos Bousoño called "vision", that is, the attribution of unreal qualities or functions to an object (1962, p. 117). In *Residencia en la tierra* such attributions generally border on the telluric or cosmic, as in "Ángela adónica":

His chest like a fire of two flames  
burned in two raised regions,  
and in a double river reached his feet  
large and clear.  
A golden climate was just maturing  
the diurnal lengths of its body  
filling it with fruits spread out  
and hidden fire.

<sup>2</sup> For this reason, years later, Carlos Bousoño would call it "visionary image". To him also belongs the concept of "qualifying displacement". Note that *Poesía y estilo* by Pablo Neruda dates from 1940, and *Teoría de la expresión poética* had its first edition in 1952.

The arduous concatenation of images attempts to describe something paradoxical: a feminine purity that manifests itself with such power that it results in erotic provocation, what with fewer words, and also less taste, could be called "innocent malice".

### Best Non-Binary

Neither Schrödinger nor Neruda accepted exclusive solutions to the problems they faced. The Austrian, perhaps because he had no other choice; the Chilean, by his own choice or perhaps because of personal conditioning.<sup>3</sup> Amado Alonso used to say that no poet like Neruda was:

[...] show with such an intimate coherence and identity of background the formal cracks and crumbling, the break with tradition, the fragmentary attention to poetry, the images as superimposed and truncated lightning, the disintegrating vision of the world and the omnipresence of metaphysical anguish. (1968, p. 203).

This is fortunate. Denise Najmanovich said that classical logic and dichotomous thinking "flatten" human cognitive space. For this type of paradigm, explained the Argentine philosopher, paradoxes are intolerable because they overflow the supposedly unbreakable limits that the principles of identity, non-contradiction and excluded third party pretend to fix to thought (n.d., p. 14).

But paradoxes play an important role for human beings. Every time we stumble upon one:

[...] we "crash" against the limits of our cognitive landscape, whether it is a paradigm, a model, a theory, or a worldview. The "bump" gives us the opportunity to question what until that moment was considered as something given, obvious, evident. By colliding with the limits, the territory of thought and the dimensions on which we build the edifice of knowledge become visible. At the same time, we are presented with the opportunity to expand it or, better yet, to reformat or reconfigure it completely. This is why we can consider paradoxes as "evolutionary floodgates". (Najmanovich, n.d., p. 14)

<sup>3</sup> Perhaps he understood reality as an agglomeration of events. José Lezama Lima used to say, with respect to his own worldview, that "poetry sees the successive as simultaneous" (Lezama, 2010, p. 81).

What does this mean? That "adventures" like Neruda's not only change poetry, literature and language, but also our intellectual paradigms. Against and more so when, as is the case, one goes from enunciating isolated paradoxes to reconstructing a system, a complex vision of the world where various dynamics influence, effects become causes and causes become effects, and the battered relationship between subject and object is restored.

In his analysis, Amado Alonso not only expressed his astonishment at these elections but, much more, at how the genius of the artist had taken the lead over the common people, venting like the animals of the bush the imminent earthquake (the simile is his, Alonso's):

And in their estate [he says of the poets], they have disavowed the forms inherited before practical men, they have turned their gaze to the chaos of the primal forces of the soul and have given themselves over to violence, destruction and artistic adventure (1968, pp. 202-203).

Perhaps that is the fate of poetry: instead of doing the math, it launches itself in search of what seems impossible. This lack (of common sense, one might say) is what allows poetry to discover new lands where merely practical thinking is usually shipwrecked. This is how Neruda, who was not good with numbers, bequeathed us that other land, forged with words, metaphors and paradoxes, very different from our old and well-known land, and perhaps, for the same reason, much closer to what it really is.

### References

- Alonso, A. (1968). *Poesía y estilo de Pablo Neruda. Interpretación de una poesía hermética*. Editorial Sudamericana.
- Argüelles, J. D. (2003). "Contra Neruda", *La Jornada Semanal*, <https://www.jornada.com.mx/2003/04/06/sem-juan.html>
- Bousoño, C. (1962). *Teoría de la expresión poética. Hacia una explicación del fenómeno lírico a través de textos españoles*. Gredos.

- Domínguez, J. (2013). *Teorías literarias del siglo XX*. Editorial Universitaria Ramón Areces.
- Lezama, J. (2010). *Diarios 1939-1949/1956-1958*. Ediciones Unión.
- Najmanovich, D. (s.f.). *Mirar con nuevos ojos. Nuevos paradigmas en la ciencia y pensamiento complejo*.
- Neruda, P. (2004). *Confieso que he vivido. Memorias*. Seix Barral.
- (1941). *Residencia en la tierra I: (1925-1931)*. Ediciones Ercilla.
- Ricoeur, P. (2001). *La metáfora viva*. Editorial Trotta.
- Swirski, P. (2007). *Of literature and knowledge. Exploration in narrative thought experiments, evolution, and game theory*. Rutledge.
- Vega, M., Maldonado, C. E., & Marcos, A. (2001). *Racionalidad científica y racionalidad humana. Tendiendo puentes entre ciencia y sociedad*. Universidad de Valladolid.
- Wagensberg, J. (1998). *Ideas sobre la complejidad del mundo*. Tusquets Editores.