POETRY, PHYSICS, AND PAINTING IN TWENTIETH-CENTURY SPAIN

CANDELAS GALA

Poetry, Physics, and Painting in Twentieth-Century Spain

Selected Publications

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Poetry, Physics, and Painting in Twentieth-Century Spain

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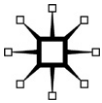

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Para Paul, por siempre

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Introduction

General Remarks

The origin of this book lies in an exploration of Federico García Lorca's poetry from the early 1920s, when the poet lived at the *Residencia de Estudiantes* (student residence) in Madrid. *Suites* and *Canciones* (Songs), the collections he wrote during that period, strongly suggested connections with cubist techniques. As I studied cubism and its treatment of space and time, I began to consider the changing understanding of space and time in physics. Einstein's theories had revolutionized science. Might they also have impacted the arts as part of the overall culture? Reading within and outside the area of humanities and the arts, particularly on physics and its philosophical implications, opened an epistemological realm that suggested a new understanding of the poems.

While this interdisciplinary approach has been explored for the plastic arts, mainly painting, connections between sciences and poetry in Spain were essentially nonexistent in scholarship. Yet Lorca and the poets in his group, commonly called the Generation of 1927, were quite aware of the changes taking place in physics and the impact they were having on people's conceptions of the universe. In their writings they made frequent references to scientific discoveries, drawing on magazines, newspapers, and discussions with friends and colleagues. Ideas of modern physics—including relativity theories, energy in thermodynamics, the imponderables in matter, electricity, the electromagnetic field, ether and the fourth dimension, and non-Euclidean geometry and quantum uncertainties—filtered through their poetic writings along with artistic currents such as cubism, *vibracionismo* (vibrationism), theories about color and movement, or aesthetic concerns regarding the image. An analogical connection of these various fields opens up the poems to new readings and meanings. It also locates the works of this important group of poets in a context beyond their Spanish territory by

recognizing them as players in and full contributors to the broader European cultural stage.

* * *

With his usual flair, painter Salvador Dalí compared the viscous nature of spacetime in relativity with the appearance and consistency of blackheads squeezed out from skin pores (*¿Porqué se ataca a La Gioconda?* 170–71). And it is precisely this viscosity or, in language terms, this self-reflexivity that is largely responsible for the complexity of arts and sciences in the early decades of the twentieth century and for the interest their study evokes. Einstein had already resorted to an image that is somewhat similar to Dalí's blackheads when he referred to the relational, nonrigid nature of the universe in *Relativity* as "reference-mollusk" (110). The contortions of space and time in relativity, dependent on the presence of objects and of the observer, were also experienced in language and painting as early twentieth-century poets and artists stretched their mediums to explore new realms of creation beyond conventional art forms. While physicists discovered a world of forces working among visible bodies that destabilized the traditional notions of space and time, plastic artists focused on forms, shapes, and colors, and on their rapports, seeking to surpass the apparent reality of the object in order to reach its core, while poets explored word combinations in search of new artistic worlds.

This study addresses the cross-pollination between poetry and physics, with pertinent references to cubism, in the work of a number of representative early twentieth-century Spanish poets. It argues that their involvement with the culture of this time did not stop with literature, but that they were intrinsically connected with a wide variety of fields of knowledge. This book does not purport to say that these poets were fully informed about the latest discoveries in physics. What it does say is that scientific advances find an aesthetic dimension in their writings, most importantly, in the angle from which they approach space, time, light, energy, and the cosmos, which happened to be the main concerns of physics at the time. The fact that, for the most part, their works have not been read from this broader cultural angle has limited their scope and understanding. Whether the poets' knowledge of physics came from the media, from intellectual journals, from lectures, or from discussions with friends, they did absorb the radical changes that physics was effecting in the general worldview. I would compare their knowledge to that of the reader whom Einstein, in his book on relativity, identified as interested in

the theory from a "general scientific and philosophical point of view, but who [is] not conversant with the mathematical apparatus of theoretical physics" (v).

I would apply to myself the same qualification Einstein gives to his readers. As a literary critic, my knowledge of physics is self-taught and based on numerous readings on the topic by authors from a variety of fields, including first sources, whose approach is certainly more technical than those of literary critics or philosophers. However, it was the reading of the poetry itself, and its links with cubism that generated this interest in physics and, in the process, my readings on physics began to resonate in my examination of the poetry. As I went further into this exploration, it became evident that the elucidation of these poetic works was greatly enriched by reading them in analogical connection with the world of physics.

* * *

The early decades of the twentieth century have been described in ways as diverse as the time itself: as a period turned inward and self-reflexive while, at the same time, pushing beyond established limits toward some unconventional "beyond"; formally conscious, while openly defiant of social and artistic conventions; seeking rationality, but curiously exploring the unknown; Newtonian as well as Einsteinean. The self-conscious exploration affects all fields of knowledge—literature, the plastic arts, sciences—each deepening the examination of its respective self by pushing beyond the limits. The commonality of their search translates into a rich process of synergy and cross-pollination among fields traditionally unrelated. The long-standing war of cultures appears to evaporate when arts and sciences share the same goal of seeking the "imponderable," the "inexpressible," the "nonrepresentational." Both artists and scientists investigate the existence of something beyond what can be seen, not transcendent to it but inscribed in the interstitial seams of apparent reality. The task at hand is to reveal and express such an as-yet-unarticulated realm. It is in reaching that limit where different venues of meaning and knowledge come together, and analogy emerges as the most viable means for approaching that elusive realm.[1]

This book is an exploration of that analogical limit and of the synergies leading to it among the epistemological fields of the literary, the visual, and the scientific. A cultural landscape emerges in the process, which is marked by the convergence of areas traditionally considered as separate.[2] A modernist poem, a Cubist painting, or the discoveries

in modern physics present unsuspected rapports and combinations that challenge conventional thinking. It is the argument here that the groundbreaking discoveries in physics concerning, mainly, space, time, light, matter, energy, vibrations, the electromagnetic field, and wireless communication, changed the existing worldview in such a profound way that excluding their consideration limits our understanding of the field of humanities during that time period.

This is particularly so in the case of Spanish poetry, an area that has tended to be examined within national parameters and, contrary to painting, has not been considered in relation to other fields outside of the humanities. As René Wellek explains, this consideration is not simply a matter of the "spirit of the times." Each field of knowledge has its own process of evolution and internal structure with relationships existing among different disciplines, forming "a complex scheme of dialectical relationships which work both ways" from one field to the other "and *vice versa* and may be completely transformed within the art which they have entered" (61). For Jerome Bruner, there are more things that unite, rather than separate the fields of arts and sciences because it is through the "*processes* of inquiry themselves," as well as the "*products* of scientific and humanistic inquiry," that traditionally separate fields of knowledge come together as the human mind "constructs scientific theories, historical explanations, or metaphoric renderings of experience by related forms of world making" (44). Much earlier Valle Inclán had recognized that "Today's poetry . . . responds to the need for a *non-Euclidean* expression" (Diego, *Poesía española contemporánea* 86, emphasis added).

Valle Inclán was not alone in calling for a new art that, like non-Euclidean geometries in science, would be better suited to modern times. From the pages of his *Revista de Occidente* José Ortega y Gasset made an urgent call to modernize Spain, to which young artists in the avant-garde responded enthusiastically. A main point in the aesthetic program of renewal sponsored by *Ultraísmo* (ultraism or ultra), one of the avant-garde movements, was to bring Spain to the cultural level of the rest of Europe.[3] Scientists, too, were committed to a program of renewal. As Marichal notes, Spanish scientists were hugely responsible for the vigor in the intellectual climate of the country at the time ("Una espléndida década" 26).

During this time Spain was experiencing a period of receptivity and openness toward cultural currents from the outside, including the great discoveries of physics in relativity, field theory, and electromagnetism. To be part and parcel of those developments was considered a necessity in the process of modernization on which the country's

intellectuals had embarked. The defeat in the Spanish-American War of 1898 made evident the overall backwardness of the country, prompting educators such as Giner de los Ríos, founder in 1876 of the *Institución Libre de Enseñanza* (Free Institution of Learning), to promote an educational system in which sciences would play a more important role than they had been assigned traditionally. The 1907 establishment of the *Junta para la Ampliación de Estudios* (Board for the Expansion of Studies) was essential in this project of modernization. Its president was Santiago Ramón y Cajal, the 1906 Nobel Prize winner in the field of medicine (which he shared with C. Golgi) for his work on the structure of the nervous system. The *Junta* awarded grants to allow scholars to broaden their education in foreign institutes with the goal that they would advance their discipline in Spain upon their return. Its goal was to synchronize the intellectual and the artistic life of Spain with the rest of Europe (Marichal, "Una espléndida década" 27).

During the early part of the century both Madrid and Barcelona became centers of cultural activity. Barcelona, in particular, became a focal point for European immigrants—Picabia, the Delaunays, Marie Laurencin, the Uruguayan painter Rafael Barradas—fleeing from other parts of Europe during the war. In turn, young Spanish artists traveled to other European cities where they came into contact with their counterparts and breathed the air of modernity. The *Residencia* in Madrid, which together with the National Institute of Physical Sciences and the Association of Laboratories was administered by the *Junta*, sponsored a lecture series with presentations by the main cultural figures at the time. Established in 1910, the *Residencia*'s goal was to provide an atmosphere of educational enrichment via lectures, seminars, films, recitals, libraries, and laboratories.

Einstein lectured at the *Residencia* during his visit to Spain in 1923. This event attracted great attention outside the scientific circles. Talk about relativity, spacetime, electromagnetism, wireless telegraphy, the fourth dimension, vibrations, gravity, and X-rays was "in the air," as part of what Alfred North Whitehead calls a "climate of opinion" or circumambient atmosphere (5). Several of the poets included in this book lived at or frequented the *Residencia*. If they did not attend Einstein's lectures in 1923, particularly the one at the *Residencia*, it is plausible they consulted the notes normally taken during these events and, most certainly, discussed them. They were to be known as the poetic generation of 1927 for the homage they paid to the aesthetics of Baroque poet Góngora in the three hundredth anniversary of his death in 1627. They admired in Góngora the aesthetic renewal

that they were seeking for themselves. Jorge Guillén (1893–1984), Pedro Salinas (1891–1951), Rafael Alberti (1902–2001), Federico García Lorca (1898–1936), and Gerardo Diego (1896–1987) are five of the ten names traditionally grouped as the 1927 Generation.[4] Also included in this study are Concha Méndez (1898–1986) and Juan Larrea (1895–1980), both chronologically affiliated to the 1927 Generation although, for different reasons, not traditionally considered part of the group.[5] Most of these poets have received a great deal of critical attention as members of a generation considered to be a second golden age in Spanish letters, and as individual poets in their own right. Some embody the spirit of cross-fertilization that permeates their time for, besides writing poetry, a few also painted, played music, lectured, taught, participated in different degrees in their social and political environment, and developed friendships with artists in different fields of expression. Literary scholarship has ignored the impact of physics, perhaps due to the traditional split between science and humanities, and because Spain was seen as scientifically and technologically backward.[6] But the revolutions in physics had reached and affected the Iberian Peninsula.

The Scientific Landscape in Spain: A Brief Survey

Einstein's visit to Spain (Barcelona, Madrid, and Zaragoza) in February and March of 1923 was undoubtedly a most significant event for modern sciences in the country. Newspapers and journals published a plethora of articles chronicling the visit, summarizing the content of the lectures, and offering reflections on the consequences of relativity theories for our way of thinking about the world. Einstein's visit has been scrutinized in detail by Thomas F. Glick in his book *Einstein in Spain. Relativity and the Recovery of Science,* an indispensable resource for this topic and difficult to surpass in information.[7] Rather than provide a full account of the state of the sciences in modern Spain, as Glick has already done, my goal here is to focus more on what was "in the air" surrounding these poets. Via a review of major Spanish newspapers and magazines from the 1910s until 1924–1925, the years immediately following Einstein's visit, I will review their publications on scientific topics. These articles provide a good sense of the "circumambient atmosphere" regarding sciences, what was being discussed in cafés, *tertulias* (informal discussion groups), and other social gatherings; they also reflect what the average person read and would learn about physics.

For Glick, 1910 signaled the beginning of modern physics in Spain. It was at that time that the Institute of Physical Research, under the sponsorship of the *Junta*, opened at the Madrid Hippodrome. Blas Cabrera (1878–1945), the leading experimental physicist in the country, was named the director (Glick 30).[8] Many articles written during the decade of the 1910s voiced concern over the nation's low scientific level. Authors attributed part of the reason to the isolation in which the scientist works, or to the scientist's own reluctance to make his/her work known, or, as a reporter signing as Critias denounced, to scientists who compromised the seriousness and critical nature of their work in favor of personal advancement ("Los españoles en la Academia").

Speaking in 1916 on the psychology of the man of sciences, Ramón Menéndez Pidal attributed the poor state of sciences in the country to the "incapacity for solidarity" in the Spanish temperament ("Hablando con Ménendez Pidal").[9] Also in 1916, José Ingenieros called on universities to adopt contemporary sciences and reorganize their overall educational plan (91).[10] However, in a piece on the state of sciences in 1917, José Rodríguez Carracido, professor of organic chemistry at the University of Madrid, praised the 1916 celebration in Seville of the Spanish Association for the Progress of Sciences Congress. Such meetings revealed that "the pursuing of our renaissance" was to be found "in the works of experimental research."

The number of articles and essays focusing on scientific matters increased in 1920. Several papers reported on the May 1919 eclipse with background information about light's weight and the confirmation of Einstein's theory by the measurements taken during the eclipse.[11] There were also articles on a T.S.H (wireless telegraphy) experiment that made it possible to hear in Madrid the voice of Mme Melba singing *La Bohème* in London (*El Sol*, June 16, 1920). In the June 25 issue of *El Sol*, Félix Apráiz considered the possibility of communicating with other planets thanks to the high sensitivity of existing radiotelegraphic receptors. The Catalan poet Joan Salvat-Papasseit, responsible for the avant-garde magazine *Arc Voltaic* (1918, only one issue appeared), announced on the cover of his journal the publication of *Poems in Hertzian Waves*, while Juan González Olmedilla called on poets to go to work on "the task to erect the new radiotelegraphic stations of lyricism."

Relativity is, however, the most "palpitating" topic, not only for scientists but for the general public, as José María Plans wrote in 1920 and as the many articles in the press devoted to this topic attest. Emilio Herrera, who identified himself as a "popularizer" of scientific

theories, authored a good number of articles on relativity and the fourth dimension (see bibliography). In a piece dated October 15 (*El Sol* 1920), Herrera stated his full understanding of relativity, particularly as it pertains to time slowing down for systems in motion.[12]

In 1922 the number of articles on scientific topics in the press increased considerably. The reporter identified as Critias introduced the *Crónica científica* (Scientific Chronicle) section of *España* as, a sign of the rebirth of sciences taking place in Spain. The Chronicle commented on "world's sciences today" and more specifically on sciences in the laboratories, seminars, workshops, and cultural centers of Spain during that time. The first essay published was on relativity. The author, P. Carrasco, began by remarking on the tremendous popularity the theory attained in Spain. Contrary to just a few years ago when people knew little or nothing about the fourth dimension, Carrasco noted that everyone had become familiar with it, as well as with Mercury's perihelium and with Michelson's interferometer.[13]

The February 18, 1922, section of the Chronicle includes a piece by Critias where he called attention to the "scientific fauna" or bad scientists and the damage they could cause to the field. Again on April 29 (1922), Critias noted that since scientists tend to work in isolation and as the educational system was inadequate, most were self-taught and their preparation was not always what it should have been. The scarcity of means—lack of books, of scientific revues, of research materials, and absence of contact with colleagues abroad—did not help the situation either. On May 27 (1922), *España* reported on a new "commission for the study of questions of international cooperation" nominated by the "Council of the Society of Nations" in Geneva. Torres Quevedo, director of the Madrid Electrical-Mechanical laboratory, was selected as one of the members, together with people of the stature of Henri Bergson, Madame Curie, and Einstein. The commission's overall charge was to organize the intellectual activity of the world on the basis of intelligent cooperation.

Julio Camba took on the topic of the two-culture divide in a piece in the July 8, 1922, Chronicle of *El Sol*, focusing on Einstein's theories and the literary world. On October 3, 1922, *La Época* reported on Ramón y Cajal's speech on the same topic at the inauguration of a monument in his honor at the University of Zaragoza. Cajal noted that civilization could no longer move forward just on the basis of literature and the arts; in order to succeed in international life, it was urgently important to add original science and industry to the list.

Theosophy and séances were also areas of interest in the press. José Comas Solá's article on metapsychology in 1925 joined in with

theosophy, séances, and occultism in promising new avenues beyond appearances that artists and the common public often associated with the fourth dimension. In this vein Cansinos-Assens notes that "the great novelty of ultraviolet and infra-red rays traverses our aesthetics, aesthetics that fill our head with cold currents, liquidating metals from the brain and giving us, for one moment, a new circulation . . ." (263; see also Araujo Costa's article).

Ibérica published articles on photoelectricity (by Pedro Trullás, October 1922) and on geometric anaglyphs (by Joaquín Pericas, January 21–28, 1922), while *El Liberal* announced the celebration of Pasteur's centenary at the *Ateneo* (social and cultural club; December 17, 1922). In the same issue there was an announcement of a lecture by Professor Nicolai from the University of Berlin at the *Residencia*. Together with Einstein, Nicolai was one of the few scientists who protested against war and imperialism. On December 19, 1922, in his section *La Vida* (life) in *El Liberal*, Gómez de la Serna referred to that mysterious "device" of x-rays, which he saw proliferating on many doctors' doors and in posters everywhere.

Due mainly to Einstein's visit to the country, 1923 is a critical year in the number of pieces in the press and magazines on scientific issues. His visit would be followed by Lorentz's in 1925 and Mme Curie's and Eddington's in 1931 and 1932, respectively. By 1923, there was a group of Spanish scientists representing the fields of mathematics, physics, and astronomy in the international community (Glick 55). Besides Einstein's visit and his theories, wireless telegraphy and x-rays were the most popular topics in the various papers and magazines during that year. Although there seemed to be a great deal of enthusiasm and support for his visit, not only from scientific and intellectual circles but also from the general public, not everyone was positive about it. According to Antonio Moreno González (151), the opposition was based not on the scientific content, which the majority did not grasp, but on the meaning of the term "relativity" and its connotations. In publications such as *Revista Calasancia*, the position regarding relativity theories tended to be critical, if not altogether negative (see Goicoechea y Alzuarán).

Reports on Einstein's lectures published in the press offer a description of the events related to his visit and of the content of his lectures although, oftentimes, the author acknowledges his lack of proper background to report on the topic efficiently. That explains why some reports focus more on Einstein's manner and appearance, describing his "leonine head," "robust neck," and "wide, Beethoven-like forehead," all of which made him resemble an artist or painter,

a figure of "nobility."[14] Besides the nobility of Einstein's appearance, reporters tended to praise that of his work. Along these lines, the unidentified author of a notice on Einstein's visit in the February 25 issue of *El Liberal* remarked that because of relativity, "a new concept of the universe is gestating." Einstein's science hails world peace and his homeland is the world. Thus the Barcelona mayor, in a speech given at the reception in honor of Einstein at the Town Hall (reported in *El Sol*, February 28, 1923), noted how neither the law nor religion had been able to create solidarity among peoples in the world the way science had by overcoming differences of race, country, language, and civilization. Like his Barcelona counterpart, the Madrid mayor Joaquín Ruiz Jiménez, in his speech at the Town Hall, referred to Einstein as the embodiment of the ideal of sciences to surpass all differences and limitations of race, religion, nationality, war, and suffering (*El Sol*, March 3, 1923).

In the March 1 issue of *El Liberal*, Mariano Poto referred to the new "scientific dawn" of which Einstein was the first spark and to Einstein as a symbol more than a specific person, stating that the country of the future would be the one that best adjusted its scientific, philosophic, and political postulates to Einstein's theories. As reported in the March 5, 1923, issue of the Barcelona newspaper *La Época*, Einstein expressed his belief that Europe could now turn its eyes on Spain and its scientific future after the nation had given so much to the world in the arts. Although in his report on Einstein's second lecture on general relativity Francisco Vera (*El Liberal,* March 6, 1923) acknowledged the difficulty in following the lecture, he also attests to the fact that the word "relativity" was heard everywhere, in cafés, offices, *tertulia*s, the street. He also reported on the curiosity of people as well as on their bewilderment and skepticism when it came to the practical value of relativity. In turn, Luis Rodes, S. J., director of the Ebro Observatory, recognized Einstein's great innovation in eliminating the ether and the absolute value of time while establishing the constant speed of light. Ramiro de Maeztu joined in the praise of Einstein and relativity in a piece commemorating the four hundredth anniversary of Copernicus's birth. Both scientists, Maeztu believed, were equals in the scope and magnitude of their respective discoveries. The March 10 issue of *El Sol* reports on Ortega y Gasset's lecture on relativity at the *Residencia* the previous day, where he placed physics at the pinnacle of the achievements in Western thought and described Einstein's theories as a new way of thinking, the seed for a new age of "a full and glorious realism."

After Einstein's departure, newspapers published pieces reflecting on the effect and meaning of his visit. Miguel de Castro in the March 11, 1923, issue of *Las Provincias* (Valencia) found the *madrileño*s (Madrid residents) lacking the preparation to receive and understand Einstein. However he gave them full credit for their honest interest in Einstein's theories while he decried the so-called intellectuals who gave themselves airs of wisdom when, as he wrote, they surely did not understand anything. The reporter signing as Lucanor called for a "science popularizer" in the March 16 issue of *La Época*, because probably most people were left without an understanding of the theories. For José Escofet, the knowledge displayed in the occasion of Einstein's visit was "an illusion of Spanish scientism."

Roentgen's death caused a flurry of newspaper articles. On the first page of the February 13, 1923, issue of *El Sol*, Roentgen's discoveries were given recognition for making it possible to "glimpse unknown horizons, regions recently open to scientific investigation." X-rays didn't escape cartoonist Bagaría's humorous treatment as well as social criticism. When twenty bakeries in Spain were forced to close down because of food poisoning, Bagaría's cartoon, in the February 14 issue of *El Sol*, shows a piece of bread that under x-rays exhibited all types of bacteria.

On January 31, 1924, the year following Einstein's visit, "X" (Xirau Palau Joaquim) published in *Madrid científico* a summary of the main points in relativity. Besides its pedagogical value, this list compiled the knowledge of the average readership regarding relativity. It included the following notions:

- The curvature of space
- Light does not travel in a straight line because space curves due to the presence of objects in it
- Objects change size depending on the speed by which they move
- Time may travel backward
- One hour may be shorter or longer and still be one hour
- One kilogram weighs more or less depending on circumstances
- There is no "fixed point" in the universe
- There is no absolute movement in the universe because the universe does not have any "fixed axle"
- There is nothing immobile in the universe, hence Einstein's relativity of movement
- Light, time, space, and material bodies are interconnected
- Empty space does not exist by itself; it is created by light
- Two parallels can meet if one of them passes through a curved space

- A straight line cannot be the shortest distance between two points if there are no straight lines; the universe cannot be infinite in any determined direction
- The universe is finite but limitless

In the same spirit of providing a concise version of Einstein's theories, Miguel Masriera Rubió published in *La Vanguardia* (Barcelona, October 25, 1924) an article on the present state of Einstein's doctrines, summarizing the three basic ideas to understand relativity:

1. The speed of light is finite and constant
2. Movement and rest don't have an absolute meaning, only relative
3. The length of an object is only the subjective notion corresponding to the distance between the fixed images that are formed in the retina simultaneously by the light rays coming from its extremes

These lists reflect a desire to organize the difficult and diverse information emerging from relativity. They come as a culmination of the many articles published in the press on these topics and follow a similar didactic intention. Although it is difficult to determine the degree of understanding the average person had of these complex notions, the press gave abundant evidence of the interest in Einstein and the incorporation of the main tenets and terms of his theories in the colloquial exchanges among people.

PHYSICS: A BACKGROUND SURVEY

The debunking of Newtonian physics in relativity can be traced back to 1883 when Ernst Mach (1838–1916) raised objections to Newton's absolutes because, as Kant had already argued in 1781, they could not be proved experimentally. It would be Mach's reliance on observable facts that Einstein would find essential for the dependency of his work on perception and measurement. Mach asserted that we reach our notions about time "in and through the interdependence of things on one another," an interdependence of phenomena that does away with "all metaphysical obscurities" (*The Analysis* 274, 275–276). Also fundamental for Einstein were the investigations of Hendrick Lorentz (1853–1928) who in 1895 proposed that the dilation of time may be caused by motion. Lorentz developed the notion of "local time," a central one in Einstein's thought since local time is relative to the motion of the clock and of the observer. However, Lorentz still held on to the belief that measurement of absolute motion was

possible because of the ether. Einstein would eliminate ether altogether in 1905 when he developed his special theory of relativity. Since the speed of light was determined to be constant, there was no need for any absolute frame of rest, such as ether. Instead, Einstein introduced measurement as the factor determining the dilation of time. The effect of time dilation was produced by the relative motion between an observer and the object observed. Absolute time was thus rejected because time only exists when measured, and measurements vary according to the relative motion of the two objects or systems of reference involved. Furthermore, time can no longer be considered as a linear succession of independent units because it is inextricably related to space. The notion of time's arrow, the linear and teleological order of temporality, came into question in the face of relativity theories, and the spacetime continuum proved the interconnectedness of spacetime and mass and energy in the general theory of relativity. The relativity of space and time brought forth the realization that phenomena are not fixed and static, but change depending on the vantage point of view. Mass compresses space and dilates time.

Hermann Minkowski (1864–1909), the mathematician and former professor of Einstein, is the one who created the tools required to describe the new notions about spacetime. In order to provide the mathematical equations that relativity required, Minkowski created the spacetime continuum, a four-dimensional continuum where everything is defined by both its position in space and its position in time. With Minkowski's math Einstein was able to develop a theory that shows the warping effect of mass on space and time. Gravitation was no longer some mysterious force: it became dependent on the spacetime "gymnastics" (Fox & Keck 268), or the contortions of bodies due to the presence of other bodies in the surroundings. An object's weight is dependent on the spacetime in its surroundings while the object, in turn, warps the spacetime in its immediate vicinity. What we call gravity in our three-dimensional world is really due in the fourth dimension to the warped spacetime near a massive object. In the general theory, mass warps space, while in the special theory, the observer's speed compresses space. Another effect of the general theory is that mass affects color. When light moves toward a massive object, it becomes blue-shifted; and when it moves away, it becomes red-shifted. In art, this means that "objects affect the color of space around them and the colors of space in juxtaposition to objects of mass are a relative value" (Shlain 332). Einstein's pronouncement, that gravity was only an illusion due to the warped spacetime wrapping about dense matter, was certainly a new way of thinking, as Bergson

noted, for it overturned well-established Western assumptions about space, time, and mass.[15] The pillars of those assumptions—Aristotle, Euclid, Galileo, Newton, and Kant—and their systems of thought were being contested from all epistemological fields (Shlain 335).

The general theory of relativity thus determines that spacetime has to be considered in connection with mass and with gravitation. The emerging view of the universe is one of interconnectedness: the four dimensions of spacetime are woven together from the three space dimensions and the one time dimension. Matter or mass affects spacetime just as mass and energy are connected. For artists and poets, the notion of a four-dimensional world became somewhat identified with the search for the limit of the inexpressible and nonrepresentational.[16] In cubism it opened the gate to exploring the object, far beyond its apparent, three-dimensional presence. The fourth dimension offered the possibility of infinite space "stretching eternally in all directions at any given moment" (Apollinaire 16). It allowed cubists to conceive the object with a high degree of plasticity so that it could be approached from all angles and articulated in all directions.

Besides doing away with the absolute character of space and time, relativity dispelled the luminiferous ether, a notion that became very popular in the nineteenth century and that many, including scientists, had difficulty in discarding. Ether was conceived as a sort of "jelly"-like substance, both rigid and flexible, stretching all throughout space. It is René Descartes who first introduced ether by attributing to it the capacity, in the form of enormous ethereal vortices, to carry planets around the sun. In the nineteenth century, ether seemed the means for light waves to travel through space since scientists, accustomed to Newtonian mechanics, could not conceive that waves would oscillate in a vacuum. As research on electrical and magnetic forces advanced in the hands of Michael Faraday (1791–1867) and James Clerk Maxwell (1831–1879), the existence of ether became increasingly problematic until the Michelson-Morley experiment in 1887 gave strong evidence against the existence of the ether.

The experimental proof of the nonexistence of ether did not dispel its importance among artists up until the decade of the 1920s. It was its imponderable nature that suggested to artists the possibility of other realms of reality. That's why, as Bell notes, during the period of the 1910s, a strong alliance evolved linking artists and poets with theosophists and occultists (117). The most relevant figure in this area is Madame Blavatsky and her theosophy, particularly her work *Isis Unveiled* (1877). For Blavatsky, ether is like the astral light

of ancient culture, a repository of energy containing impressions of all human actions, which the clairvoyant, that Rimbaud hoped the poet would be, could see through beyond the world of appearances (Dalrymple Henderson, "Vibratory Modernism" 129). The ether conveyed a realm of the ineffable, which artists were seeking in their works. It was also related to the fourth dimension.

Ether was not the only means to be considered in the pursuit of the imponderable. The work on dreams and the subconscious carried out by Freud was running parallel with Einstein's work on relativity, just as the search for formal rigor among artists was equally represented by a taste for the irrational and an interest for psychical research of so-called debatable phenomena. Also, some took the advances in wireless telegraphy and notions of the fourth dimension in the direction of the irrational, the subconscious, the fantastic, and the intuitive (McFarlane 71, 76–77).[17] These less conventional directions were attempting to counteract positivism and materialism and to achieve a more unified view of the world. Theirs was a challenge to realism, to what Timothy Reiss refers to as the analytico-referential discourse, or the sign system in the prevailing Western culture, and whose features include being as totality of completion, causality, objectivity, centrality of discourse, and of a reality outside to which discourse refers directly. This worldview corresponds to the Euclidean order, for it claims that the plane geometry of parallel lines and right angles is the order of "common sense" and objective reality, the legitimate, transparent order supposed to reproduce facts before they undergo an intellectual construction (Reiss 329). Modern art and literature represent the subversion of the rational principle implicit in this order (Singler 356), just as relativity and quantum mechanics were challenging the long-standing preeminence of the Euclidean/Newtonian worldview. In the paradigm of modernity, the observer is no longer distanced from the object of observation, and the relation between the two becomes unclearly demarcated or, as Einstein and Dalí would say, it becomes viscous.

Ether theories were somewhat supplanted by electromagnetism. Maxwell's four equations, which he developed in 1865, encompass the interdependence existing between electric and magnetic forces and revealed that the electromagnetic waves are a form of light. Maxwell explained that light is emitted by moving electric charges, which are then propagated through space as a result of the interplay between electric and magnetic forces (Park 34). In this way, the field replaced ether. This pointed to the notion that there existed unseen forms of light with a different wavelength from that of the visible

region of the spectrum.[18] In the field, light is a wave both electric and magnetic. Heinrich Hertz (1857–1894) confirmed Maxwell's prediction with his 1887 discovery of radio waves whose wavelength was a billion times longer than that of the waves of visible light. This would lead to the discovery of the entire spectrum of electromagnetic radiation and to the existence of the electromagnetic field as an entity in its own right. The development of wireless telegraphy and other means of communication would have an enormous impact on the arts. As N. Katherine Hayles indicates, the field is dynamic and fluid; it contains the observer, and because of the interconnection among its parts, it is not possible to speak in terms of cause and effect (*The Cosmic Web* 19, 41).

Overall, it is Einstein's most famous equation, $E = mc^2$, that encapsulates the achievements and direction of modern sciences in the first decades of the twentieth century (see Bernstein 97). The formula, I would add, articulates succinctly the tenets that counted most for artists and poets, that is, the focus on the object, on the materiality of things, and, through its examination, the understanding of its energy as containing within itself the imponderable that appearances only veil. Stating that energy is equal to mass times the square of the speed of light, this formula describes the equivalency between energy and mass, attributing energy even to the smallest bodies. Since the energy content of a body is measured by its mass, mass and energy are two sides of the same concept. The processes of fission (or the splitting apart of a large nucleus) and fusion (or the combining of small nuclei) allowed observing the equation in action for the amount of mass after the fusion or fission was never the same as before since energy was released in the process. Energy may take many forms, the most important being the energy involved in motion and that involved in radiation.

These energetic metamorphoses translate into poems and canvasses where energy is articulated by colors, shapes, typography, and image combinations. Under the scrutiny of the artist's eyes, the mass of the object undergoes multiple variations and combinations in an attempt to convey what constitutes the core or essence. Rather than sequential, causal processes, poems and paintings depict spherical, circular forms conveying a synchronous, holistic view. In this sense, poems and paintings become analogues of the electromagnetic field, as nonhierarchical spaces traversed by energy and vibrations. Energy radiates from objects like waves of light.[19] The danger of that energy dissipating—the entropy in the second law of thermodynamics—corresponds to the arrow of time in Hawking's

terms. In the creative activity of the avant-garde it translates into the construction of poems and canvasses as fields of electromagnetic forces. In the artists' fields, energy rotates and moves but, contained within the energetic field of the work of art, does not dissipate. Space and matter are no longer absolute, independent entities, but intertwined. Poet and painter experiment with blank spaces and typography observing how words and images interrelate with their spatial background and how they inform one another. The result is the work of art as a web of interactivity where meaning takes shape in relation to other elements in the context. The way objects in cubism "bleed" into neighboring objects or fuse with the background reflects plastically a field notion.

Modernists and avant-garde artists stay away from absolute, definitive solutions, just as physics reveals that the solidity once attributed to the world has become much less dependable. Reality is not just something "out there" for it is intrinsically joined with the observer's perception. Furthermore, the viewer's perception is confronted with a reality that is never, or not simply, what it appears to be at first sight. Quantum mechanics shows the impossibility of measuring time and energy, or position and momentum at the same time, not because we lack the know-how, but because of inherent properties of nature. That in cubism two or more contrary perspectives may overlap replicates what happens in the subatomic world where two photons are not either/or but rather overlap in their wave functions. The cubist captures the moment when the observation has not yet made the decision for one of the alternative worlds. The reality of one of the alternatives becoming fulfilled remains suspended; it only becomes "fulfilled" when each observer chooses to realize/materialize one of the alternative "worlds." Applying to cubism what John Wheeler says about physics, the observer "literally creates the universe" by his/her observations (Davies, *Other World* 122, 126).

The focus on the object correlates with the importance of geometry in modern science and painting. However, it is no longer the Euclidean world order that the avant-garde references, but the four-dimensional spacetime continuum that only non-Euclidean geometry could configure. No longer interested in the appearance, illusion-like nature of reality, artists and poets shift their attention to the "other" realm that the fourth dimension suggested to them. Physicists had also discovered that quantum reality was composed of radiation energy produced by atoms that were unobservable. The whole enterprise of modern art, literature, and physics was involved in the search for the unobservable. There, in the fourth dimension seemed to reside

the "essential" reality cubists sought after, the realm where "contingent visual and anecdotal elements were eliminated from the work" (Apollinaire 136).

Modern physics opened far-reaching frontiers as well as revealing the unpredictability of what has traditionally been called "reality." Physicist Erwin Schrödinger (1887–1961) observed that "in the overwhelming majority of phenomena whose regularity and invariability have led to the formulation of the postulate of causality, the common element underlying the consistency observed is chance" (cit. Barrow 116). One central point stemming from the reality of chance, which emerges from and unites the different fields of physics, painting, and poetry, is the impossibility of achieving a conclusive knowledge of the universe and, consequently, the challenge to keep searching for that inexpressible, imponderable border. Physics' discovery that light acts as both particle and wave shattered all notions of predictability. Reality was no longer static but in a constant process of unpredictable becoming. Due in great part to Einstein's 1905 special theory of relativity, this discovery led Louis de Broglie in 1923 to conclude that matter should also have aspects of a wave field (Park 38, 40). This "indeterminacy" in matter, the substance traditionally considered as being solid and fixed, set the stage for the formulation of Werner Heisenberg's (1901–1976) principle of indeterminacy or uncertainty. In 1927, Heisenberg established the impossibility of localizing a particle with complete precision because when trying to measure the momentum, we lose the position, and vice versa. This indeterminacy is constitutive of nature, not due to our ignorance. In the process, the impenetrability believed to be intrinsic to matter was being dismantled by the ongoing discovery of further layers of so-called elementary particles.

The arts also reflect uncertainty in images of the artist as an acrobat and tightrope walker forced, as Apollinaire notes, to make risky somersaults into the unknown (146). The principle of unity, as it was traditionally understood, was lost together with any organic connection between the past and the future. Relativity dismantled simultaneity by proving that events that are simultaneous in one reference frame are not simultaneous in another moving at high speed relative to the first, so that two observers moving at different speeds relative to one another would not agree on whether two events were simultaneous. However, the notion persisted in art and poetry because, as Kern notes, relativity was a difficult theory to grasp while technological progress gave the impression that time and space could be conquered (81).

Analogical Expansions

Modern physics has turned viscous a model of reality that Newton conceived as a mechanical clock. Space and time lose their Newtonian rigidity to constitute a spacetime continuum, which, according to the general theory of relativity, is prone to all types of contortions depending on the presence of mass in the surroundings. In this "mollusk"-like state, in Einstein's terms, Euclidean geometry no longer holds as the a priori system it was for Kant because its postulates fail to account for a space in which the last vestiges of physical objectivity are subsumed in the "mollusk" (110). Octavio Paz summarizes this state of affairs with the terms "analogy" and "cosmic syntax," and refers to the universe as a textual/textile realm filled with signs that rotate according to a cosmic rhythm: "Correspondence and analogy are just names for universal rhythm" (*Los hijos* 95).

The importance of connections and relationships in this worldview, Paz notes, is fundamental in the history of modern poetry from romanticism to the present (100–101). Analogy, as he notes, plays a central role in Baudelaire's poetic world, as does the association of universal correspondence with metamorphosis since the language of the universe, as well as verbal language, is in constant motion, each phrase generating another and this, in turn, another, each thing being the metaphor of another thing (104, 106, 108).[20] In his 1913 manifesto titled "Destruction of Syntax-Imagination without Strings-Words-in-Freedom," Marinetti speaks of analogy as casting immense nets across the world in order to reveal "the analogical foundation of life" (Apollonio 98–99). Rimbaud had also looked for a language based on analogies "summarizing it all, perfumes, sounds, colors" (letter to Paul Demeny 308). Analogy responds to the worldview of an interrelated cosmos emerging from the artistic and scientific avant-garde; in its unexpected associations, it reveals links among disparate and distant things in the phenomenal world, between work and world, and within the parameters of the work itself; it debunks realism and the conventional way of seeing while emphasizing the artistic or constructed aspect of world and work.

Einstein's relativity is the form analogy takes in the science of physics. The well-established importance of the object, and of the observer's apprehension of it in the plastic and verbal arts of this period, runs parallel with modern physics and its new way of approaching space and time as dependent on measurements and the observer.[21] This interconnection between viewer and object, object and context, implies a perspective that favors relatedness over isolated units.

Einstein's special and general theories of relativity came to correct what Ortega y Gasset identifies as an excessive estimation of man as if he were the center of the universe ("El sentido histórico" 234). The split between the outside and inside realms, typical in the classical subject, was rendered obsolete as the body, throughout the nineteenth century, became continuous with its field (Krauss 82). Objects no longer appear in isolation, but in context. Perception is decentered as the subject's vision becomes what Norman Bryson calls "visuality," "that cultural construct" or mosaic, a network much larger than the individual agent (91–92). Vision is thus embodied and embedded in the physical body of the observer (Danius 63). In this sense, and as Vargish and Mook note, observation or perception takes the place of reality (6). Vision becomes central because, rather than depicting or capturing reality, modern art and science depict their observation/vision/measurement of it.

The worldview emerging from the viscous nature of reality, and depicted in the artistic works of the period, is one of relations, of space and time as a field of forces and energy.[22] Beginning in 1831, English physicist Michael Faraday's experiments with magnets, and the "lines of force" producing the "field" of influence throughout space, led to the discovery of the total symmetry between electricity and magnetism and to the formulation of the electromagnetic field theory.[23] Vargish and Mook define the field as "a spatial and/or temporal model or representation in which all constituents are interdependent and in which all constituents participate and interrelate without privilege" (105). Hayles refers to the interconnectedness of elements in the field as a "cosmic web" and "the fabric of spacetime" (*The Cosmic Web* 10). For Carpenter, the "everlasting evolution" that life involves is crisscrossed by "messages of light and sound and electricity and attraction" penetrating everywhere (68).

The field notion implies the absence of any center or hierarchy as expansion occurs in every point (Vargish and Mook 111); the "lines of force," like the grid on a canvass or the lines in a poem, contain the energy of the field in a nonhierarchical pattern where no single aspect is favored over the other. In poetry and painting, this translates into works whose object is no longer the focal point but rather a pretext to present the convergence of different forces and relationships. In those "lines of force" is where the imponderable/inexpressible/nonrepresentational and ever-shifting limit resides and where the attention of artists and scientists is fixed. Rimbaud calls it *l'inconnu* (the unknown) and he advises the poet to become a *voyant* (seer) in order to access it (306).[24]

Leaving behind the world of appearances that impressionism had placed in the center, cubists sought after solid bodies and essential forms. Their "constructionist" sense aims at the creation of a world that cannot be found in the outside reality because it is mental, consistent only in its artistic realm. Cubist paintings are far from being "transparent" representations of the world; instead, they provide a "model" that responds to concepts. Cubism deconstructs the object in order to compose it again in a new form via different strategies, such as simultaneity in vision, interpenetration of different planes, combination of discontinuous forms, and fusion of temporal and spatial planes. Cubist techniques of reducing or fragmenting the thing, dispersing its elements across the grid of the picture surface, setting its attributes in new and paradoxical relationships to each other are ways to push the limits of the representational, although never abandoning intelligibility altogether.

In the study of poems by the various authors here included, the approach is to consider the attention paid to reality, to objects and things, in analogy with the focus on mass as energy, and on the self-reflexive nature of bodies in relativity. However, objects do not appear in isolation, as their presence creates a gravitational field that affects the surroundings; the poem, thus, becomes a space of energy and change, of relations within the work and with its surroundings. The work of art, as the universe in Einstein's world of relativity, is thus finite but boundless or edgeless in the sense that the "beyond" it seeks coincides with its own self-reflexive exploration.

The works under consideration in this study were written in the decade of the 1920s, mostly in the earlier part of that period.[25] The poets included in this study participated, some more actively than others, in the avant-garde. Many traveled abroad and met artists engaged with the European avant-garde, such as the cubists in Paris.

After considering the variety of designating terms, I refer to this time period as "Modernism," using the term as it is understood in Anglo-Saxon studies, as a historical period whose aesthetics center around the creation of a work of art that reflects upon its own structure; a work that incorporates multiple perspectives and rejects realism.[26] In this use of the term, Modernism encompasses but does not engulf the avant-garde. Eysteinsson speaks of the "dynamic reciprocity" of these two terms and conceives Modernism as the broader of the two, referring more to aesthetics while attributing to the avant-garde a more experimental inclination, and close attention to technology and science, as well as to the social and political context (4, 176). Although I am in basic agreement with Eysteinsson's "dynamic

reciprocity," I consider sciences, and physics, in particular, to play a major role in the culture of the times, as much a part of modernity as the aesthetic, social, and cultural tenets. However, it is not a question of direct influence, as Dalrymple Henderson has proved convincingly in the case of relativity and cubism: "the mistake of art historians dealing with Cubism and Relativity has been to read back into Cubist literature of 1911 and 1912 the development of physics of a non-Euclidean space-time continuum that was not completed until 1915 or 1916" (*The Fourth Dimension* 358). Since the notion of a fourth dimension was absent from relativity theory until 1908, when Minkowski delivered his famous lecture on "Space and Time" in Cologne, and non-Euclidean geometry does not make its appearance in relativity until 1916, the influence of relativity on cubism is doubtful. Furthermore, Einstein and Minkowski did not become well-known figures until after the years 1911 and 1912 when their theories could have been influential on cubist painters. If cubists in France heard about relativity, it would have been via Henri Poincaré (1854–1912), the French physicist whose notions of relativity were not connected with Einstein's but with the "principle of relativity" concerning scientists since the nineteenth century.

However, even if chronology makes questionable the connection between relativity and cubism, questions about the world of absolutes in the Euclidean model and interest in exploring other boundaries, as the fourth dimension would suggest, were part of the cultural environment in which artists moved. Cubists were involved in depicting a world that was essential, not the ephemeral and phenomenal; they relied on geometry and mathematics as ways to construct the conceptual reality they had set out to create. The cubist's attention to space, not as a thing in itself but as containing bodies, is echoed in post-Newton physics and in poetry; the poem as space undergoes unusual transformations via typography, double images, and juxtapositions. Committed to creating a work of art that is solid and permanent, cubists focused on density, matter, and volume as synonymous with the energy they wanted to capture. One reason why objects seem to be "coming out towards" the viewer in cubist paintings, and in those by Juan Gris, in particular, is because of their energy content as the carrier of essential truth (Kahnweiler 124).

As in other European countries, a wide diffusion of scientific news in Spain was scarce before the 1920s; also, as in other European countries, Einstein's work was not recognized until after 1919 when Eddington's expedition to photograph the eclipse proved Einstein's theory. The poets considered in this book had their formative years in

the 1910s, with publication dates for the works under consideration here during the 1920s and onward, when news of Einstein's discoveries was being transmitted through newspapers and other publications. As the readings will show, there is in these poets a concern about space, time, energy, light, the universe, about the way sciences may or may not determine how the world is articulated and conceived, and about their poetic work vis-à-vis new scientific developments and technological progress. This book places these poets and their writings within the European modernity in painting (cubism) and physics; it examines what M. A. García refers to as the *contemporaneidad* (contemporaneity) and "modernity" of the poets of 1927, as the best paradigm for the period (14).

Aldous Huxley writes that ours is the age of science whether we like it or not. Even if writers are not expected to know sciences in depth, they have to acknowledge how scientific advances and the state of sciences affect the individual experience and social relationships. Both share in the ambition to express the ineffable, what Mallarmé and T. S. Eliot meant with the expression "Give a purer meaning to the words of the tribe" (60, 12–13). Apollinaire referred to poets as the "alchemists" of the present time and considered the future of scientific discoveries to be infinite. Favored by modern technologies (film, phonography, typography), artists and scientists were placed in the best position to work toward a synthesis of the arts (Shattuck, *The Banquet* 295).

For Eysteinsson, the shift from the subject to reality is paradigmatic of the major revolt against the literary and aesthetic traditions of the Western world that, starting in the nineteenth century, took full shape in Modernism (2). Contrary to previous periods and their emphasis on subjectivity, it is through a focused attention on the object that literature, painting, and physics explore the boundaries of meaning. But the object on which attention is now focused is not an absolute, rather it is determined by the observation of the subject, and no longer is the subject the focus of the poem or painting but his/her observation of reality. As Heisenberg noted, relativity involves an exchange with nature, and what we understand as "nature" or physical reality is determined by the "interplay between nature and ourselves" (*Physics and Philosophy* 81). The shift in arts and poetry from the subject to the object represents for Ortega y Gasset a coming out from under the subjective, personal realm into the evidence and presence of things (*Meditaciones del "Quijote"* I 351).

The works to be examined in this book establish the dialogic relationship with reality these authors discuss. They refuse to provide any

proposals or solutions whose validity extends beyond the provisory character of the work itself. Poems will be approached not only as part of the cultural and historical context of the author, that is, through the science available at the time, but also from today's perspective, with almost a whole century of science beyond what was available in the 1920s, and as examples of the artist's intuition in anticipating some discovery in the horizon.

The work of these poets, each in his or her own way, relates to some of the major theories in physics, mainly with the search for a beyond in the line of the fourth dimension; with the energy of creation that physics explored in the theories of the electromagnetic field, light, thermodynamics, and energy; and with the relative, chancy, imponderable nature of reality and matter. By reading these works via their analogy with physics, their meaning resonates with the broader scientific knowledge that, in turn, reveals the full, imaginative scope of these artistic expressions.

Chapter 1

The Poetry of the Imponderable—Pedro Salinas's Vocation: Unreliable Perception, Certainty of Chance, and the Reality of Fabling

In *Reality and the Poet,* Pedro Salinas recounts an anecdote about Garcilaso de la Vega who, attending a social gathering during a visit to Italy, joined his distinguished hostess in lamenting that her servants had destroyed the beauty of the sunset by entering into the room with bright lamps (72–73).[1] Like Garcilaso, Salinas would have lamented the destruction of the beauty at sunset, a time in the day when reality seems suspended in a liminal state between light and shadows. The ambiguity of light at the sunset hour invites ways of perception that are less than rational or "normal." Salinas's fascination with subtle, unconventional ways of perception runs parallel with his interest in the imponderable side of reality, as made evident in the titles of his first three books, *Presagios* (Premonitions; 1924), *Seguro azar* (Certain Chance; 1924–1928), and *Fábula y signo* (Fable and Sign; 1931). The title *Presagios*, as Jorge Guillén explains, comes from *prae-sagire* (to perceive beforehand, to test, to try), suggesting a kind of knowledge predating confirmation or proof; a *presagio* is a signal of what is to come, an omen or foreboding.[2] *Seguro azar*, his next collection, relates "certainty" to chance, thus, making unpredictability what is sure to happen. *Fábula y signo* fuses the poet's fabling or

creative perspective with the sign, as the supposedly faithful means to convey it. Salinas's belief that reality should not be approached exclusively by reason and objectivity, and that assessments are not absolute or fixed, was shared in most fields of the physics of his day, such as relativity, visual perception, electromagnetism, and quantum mechanics.

Trasrealidad (beyond reality) is Salinas's overall term for phenomena not easily explained by objective measurements, and it runs parallel to his belief about the constructed aspect of perception. This corresponds to the interest among many twentieth-century artists in the nonperceptible or imponderable, or what may be termed "the invisible reality of matter itself" (see Dalrymple Henderson, *Duchamp* 16). Artists such as Kupka in the early 1910s were showing that painting is not solely based on what can be captured by the eyes, and others involved in metaphysical programs, such as occultism, found support for their ideas in Einstein's relativity and Minkowski's spacetime continuum. These provided a scientific foundation for their beliefs about the existence of other dimensions and encouraged their programs of approaching reality by unconventional means.

Occultist theories linked their beliefs to discoveries such as x-rays, radiant matter, wireless telegraphy, and telephone. Wilhelm Conrad Roentgen discovered x-rays in November 1895, three years after Salinas was born (November 27, 1892, in Madrid). X-rays opened up reality to levels beyond what eyes could capture and revealed the inadequacy of sensorial perception. With x-rays people could see through matter, which until then was considered solid and impenetrable. With the telegraph and the telephone one could connect with distant people and places. Thus, long-held beliefs about the predictability and continuity of reality, and space and time, were put into question. It then became possible for occultists to speak of astral bodies found in the electromagnetic field and connected to a higher awareness and consciousness. Figures such as Hippolyte Baraduc, Annie Besant, Charles W. Leadbeater, and Albert de Rochas studied, and even tried to capture in photography, the emanations or vital force from the soul.

Space, which until then was considered a void, became a realm filled with activity (Dalrymple Henderson, *Duchamp* 7, 8). In painting, cubists did away with Renaissance perspective in order to show the many angles from which an object could be viewed. Einstein's relativity was at the heart of this multiperspectivism because of the new knowledge about reality emerging from the interplay among mass, gravity, and the curvature of space. At the time of writing the

poems included in *Presagios,* Salinas was teaching at La Sorbonne and living in the middle of a city immersed in the avant-garde. Picasso was emerging as the central figure in cubism, and critics such as Apollinaire were resorting to notions from physics to explain the tenets of the new pictorial school. The interpenetration of figure and ground in cubist paintings, like the merging of the observer and the observed, reflects a worldview that questions objectivity and the traditional solidity of matter.

This chapter examines the three earlier books of poems by Salinas as explorations on the nature of seeing and perceiving, on the reality of the invisible or imponderable, and on the predictability of the unpredictable, or chance. It establishes analogical connections between those topics and relativity, theories of chance in physics, and technological advances. It will show that this poet's interest in avant-garde innovations does not simply respond to a whimsical phase in his work, as most critics have argued, but to his deep-rooted interest in physical reality and belief in its ever unreachable multilayered nature. Although it is difficult to ascertain how aware Salinas was of the scientific principles through which I am reading his work, his writings reveal his acute sensitivity for the imponderable and chancy aspect of reality that modern physics was also attesting. The pleasure he found in gadgets and technological progress went alongside an understanding of the way they affected one's view of the world. If he did not read about physics directly, he lived among artists whose experiments with the new tenets in physics at different levels could not have passed unnoticed by a poet as perceptive as Salinas.

Presagios or the Game of Light and Shadows

Le malentendu (misapprehension), the "shadow," and *trasrealidad* are three notions closely related to Salinas's understanding of poetry and reality. In his "Poetics" included in Gerardo Diego's anthology, Salinas explains the *malentendu* as a force: "one has to count, in poetry above all, with that latent and mysterious force, accumulated in the word below, disguised as word, contained, but explosive. One has to count, above all, with that superior form of interpretation that *misapprehension* is" (303; emphasis in the original). *Le malentendu* is thus an interpretation, a perspective that the word contains, although in disguise. Because of its latent and mysterious force and explosive power, it should not be discarded or go unnoticed. Words are not just what they appear on the surface, but containers of hidden, powerful meanings.[3]

The notion of shadow and its role in apprehending reality is described in *Reality and the Poet*:

> Poetry always operates on reality. The poet places himself before reality like a human body before light, in order to create something else, a shadow. The shadow is the result of the interposition of a body between light and some other substance. All poetry operates on one reality for the sake of creating another . . . So that the way a poet places himself, interposes himself between the radiant light of life and life itself will determine his peculiar way of being, his quality, that is, the form, the personality of his shadow. (5–6)

Poet and poetry create the shadows or perspectives that contrast with light, revealing in the process the diversity and richness of reality that the blinding force of full light annuls. Shadows do not have to be obscure because they may reveal aspects of reality not perceived by an eye fixed only on the surface of things. Reality and poetry are to be glimpsed in the play between shadows and light. Placing himself in front of reality, the poet casts a shadow that is his consciousness or perspective grafting on reality. Is reality something out there, then, different from the observer or is it the observer's creation, the intersection between observer and observed? Is the word the substitute for the object it purports to represent or a shadow of it? In Salinas's approach to reality and poetry there is no one-way answer because planes keep shifting. As the titles of his books announce, we may have premonitions about reality, or the certainty that the uncertain chance will be there (*Certain Chance*), or that the signs we hold of reality will mix inevitably with some degree of inventing or "fabling" (*Fábula y signo*).

Presagios opens with a brief poem written in cursive, a sort of epigraph to the collection:

> *I forged a link one day*
> *Another another day*
> *and another.*
> *Suddenly they all came together*
> *—it was the chain—all.* (51; emphasis in the original)[4]

The collection is seen as a chain constituted by a series of poems or links, which, as in the case of different perspectives, are compiled in a gradual, ongoing way. To realize all of a sudden that the individual perspectives/links/poems form a whole is to admit that there was not a plan for the collection, but that, instead, it came about as

different parts that formed an integrated unity. In the chain, links connect different elements in analogical rapport. In this respect, Salinas's collection resembles the cubist project of forming a painting by combining geometric forms, or deconstructing the object to reassemble it as a new whole that is not necessarily the sum of its parts. In both instances different, individual perceptions and fragments come together to provide a new sum that remains open and thus unstable. This mobility implies variability and unpredictability in meaning, just as speed with cars, trains, and airplanes was at the time affecting perception. As a result, reality stops being a predictable realm of the seen that one could examine in an ideal state of rest extricated from surrounding circumstances, including the observer. In *Mis ojos ven el árbol* (My Eyes See the Tree) (# 3, 55), reality is like a rolling ball in constant motion, which makes it impossible for the hand to grasp it. As in Eden, having fallen from the tree, the world rolls in spacetime.

French physicist Henri Poincaré discusses what he calls "perceptual space," a combination of visual, tactile, and motor forms, which is entirely different from geometric space. In order to get a sense of it, sight, touch, and "muscular sense" have to come together (*Foundations* 72). To consider space as continuous and two dimensional, an impression based on what Poincaré calls "visual space," is a mere illusion. "Tactile space," on the other hand, is more complicated than visual space and a part of what Poincaré calls "motor space": "each muscle gives rise to a special sensation capable of augmenting or of diminishing, so that the totality of our muscular sensations will depend upon as many variables as we have muscles. From this point of view, '*motor space would have as many dimensions as we have muscles*'" (67–69; emphasis in the original). Poincaré's views correlate with Einstein's special theory of relativity where time and space are no longer stable and absolute entities, but change according to the motion of the person measuring them. Salinas's protagonist concurs with these views—that "perceptions of the world are observer-dependent" (Shlain 132).

Le malentendu is intrinsic to creation and its game of shadows. Telescopes, cameras, mirrors are, like the poet, filters that configure the view they apprehend and oftentimes involve confusion. For Umberto Eco, mirrors, like periscopes or binoculars, are prostheses for the senses, rather than signs to be interpreted. The fascination mirrors hold in art and literature is due to their standing at "the threshold between perception and signification" (216–217, 210). In "Poem #8" (60), the speaker has been looking at the reflection of the "You" (the beloved, reality, and/or poetry) in the mirror. He

sees a faithful image that is, at the same time, a betrayal of the "You" because it reflects it, but is not it. This contradiction leads him to conclude that visibility is not identical with presence. The exactness of the mirror image is a disguise for its vividness, which hides the soul of the image. The tricky nature of reflections, just like the *malentendu* implied in language, makes perception highly suspicious. And, like poetry as shadow or premonition, the mirror marks the borderline between surface and depth, reality and reflection. As Mayhew notes, for Salinas, the mirror is a semiotic sign because "the reflection does not merely copy the referent, but rather simultaneously adds to and subtracts from it" (*The Poetics* 45).

The uncertainty involved in this view of reality is represented by the poet who, walking on "firm ground," nevertheless follows the science of a funambulist or acrobat walking on a wire over the abyss ("Poem #9," 61). Although the precautions he took were probably excessive since the ground was firm, no one laughed at him because one day he fell and broke his soul into pieces; the ground was not so firm, then, as everyone assumed. The poem concurs with scientific views regarding the falsity of conventional beliefs about matter as being solid and impenetrable: new discoveries were proving otherwise. William Crookes spoke of a new state of matter called "radiant," which he described as invisible particles constituting the physical basis of the universe. With radiant matter, Crookes believed, we had touched "the border land where Matter and Force seem to merge into one another, the shadowy realm between the Known and the Unknown" (167).[5] The discovery of x-rays and radioactivity cracked the long-sustained belief in the solidity and impenetrability of matter. Relativity had also ended the Newtonian notion of space and time as absolutes, while Heisenberg's 1927 uncertainty principle would further reveal the impossibility of pinning reality down, of learning the identity of the particle's position and momentum at once because the mere act of observation affected the results; by measuring one, the other was affected. Crookes's "border land" of radiant matter provides an analogy for Salinas's experience with the border limit between firm ground and the abyss, visible or concrete reality and shadows. The poem refers to the existential experience of losing ground because of some tragic event, but traditional views in physics were equally losing ground to the discoveries of relativity and quantum mechanics.

In the case of *La tierra yerma, sin árbol* (Barren Earth, Without a Tree) (#30, 84), earth and sky appear empty of vegetation, clouds, or birds, looking at each other in a "parallelism of mirrors." The static

nature of this picture conveys a universe according to the abstract models of Euclidean geometry, implying certainty and stability. Earth and sky blend their demarcations thus becoming reflections of each other. The objectivity and stability in that setting keep things predictable, but lifeless.[6] Parallel, mirror reflections dilute difference and do away with the semiotic game of shadows. They imply a Euclidean order of stability, but they are devoid of active meaning. The return of dimensions corresponds to a non-Euclidean, relativistic view involving unpredictability, together with pain and creation.

The "known order" of conventional geometry the poet learnt when he was born is mentioned in "Poem #38" (92): "each thing in its place, like always, / confirming, again, for me that order / which I understood when I was born, with nothing new." This is the habitual view at the poet's window. However in "Poem #38" such view is contrasted with what is reflected in a mirror "at the back of the room." At first he seems to believe in the faithfulness of the mirror reflecting reality as purely as the word became flesh in Mary by means of the Annunciation (lines 7–9). But when he looks into the depths of the mirror, as if they were the entrails of a palpitating world, he perceives several things: the blood of the sunset light, the beginning of the night and its constellations, the sign of the "apostate," and the key to the whole arc of heaven and earth.

The passage of time, as reflected in the red light at sunset, points to a progression in knowledge from the initial, unadulterated view from the window to the "blood" or red sunset light in the mirror. The firmness of his pupil, which captured the same view from the window since his childhood, is tested by the mirror reflections or symbolic, nonrealistic versions of what the window offers. The reflecting game of the mirror involves a loss of innocence, a play with levels of reality and signification. That may explain the reference to the "apostate." Roman emperor Justiano (Flavius Claudius) was known as the "Apostate" (332–363) because he was educated as a Christian but, influenced by paganism when he studied in Constantinople, he abjured his faith and proclaimed the cult of paganism. The mirror contains the sign of the "apostate" because it offers a noninnocent view, one that has elaborated on the direct view from the window. When the poet tries to confirm what the mirror showed, he only sees his own image. From the rest of the visions the only thing remaining is something quite imprecise in his eyes. Did the mirror reflect something out there or was it the poet who created those visions? No specific answer seems forthcoming, so the poet returns to his corner allowing images "to die / slowly in the mirror." What life is, whether

it is the picture from the window or the one in the mirror, becomes interchangeable as it is always filtered by the instruments of vision—eyes, telescopes, or mirrors.

Presagios deals with perception as the determining factor in the way reality is apprehended; with the multilayered constitution of reality; and with the onerous task of the poet to achieve a creation that articulates such unpredictable, ungraspable reality. In this view of life and creation there is a subtle reference to the fall in Eden as it leaves behind the Euclidean, predictable order of things to embark on something that lacks solid support and remains beyond reach. The world represents that fall as the round ball that, like the fruit fallen from the tree, confronts mass and gravitation as it rolls and rolls, deforming the original perfection of its roundness. Because of its rolling, the view of things is always shifting. The loss of innocence of the fallen world refers also to the poet who has to give up his earlier belief in a Euclidean view devoid of the unpredictable and, instead, confront the *trasrealidad* of the shadow. No longer is language the innocent instrument with which to describe the world, since the world is no longer the visible evidence "out there." Direct perception is replaced by the game of reflections in mirrors where images are filtered and reconfigured. But in the loss of innocence, there is the gain of creation. The "unknown master" (see "Poem #3," 55) whose will leads this poet and his creation is the unknown and unpredictable nature of the invisible and the imponderable that his creation attempts to articulate. The poet has premonitions of it, but the key to its unfolding remains elusive. What remains is its search in the many forms of creation.

SEGURO AZAR: THE CERTAINTY OF UNCERTAINTY

A l'horizon, par les brouillards,
Les tintamarres des hazards,
Vagues, nous armons nos démons
Dans l'entre-deux sournois des monts.

(On the horizon, with sea-mists blown,
vague hazards roar and moan;
waves, our demons we array
where throughs of mountains shift and sway.)

Alfred Jarry (1873–1907), the author of the quoted lines from his "The Man with the Axe," a poem after and for Gauguin and his painting also entitled "The Man with the Axe," sees the horizon veiled with mist and the confusion of chancy, unpredictable signs. Translators

of these lines have varied in the way they deal with the word *vagues*, unsure as to whether it applies to *brouillards,* to *hazards*, to both, or to our selves, or if it refers to "waves," as in the quoted translation. Ambiguity prevails in this stanza, and although our demons may be armed and ready against such unpredictability, their hiding place is not firm, but shifting.[7] In his Pataphysics, Jarry assumes that pandemonium is bound to happen because commonsense is not necessarily the prevailing mode nor is it more valuable than any other stance. Contradiction, ambiguity, imprecision occur as frequently as so-called commonsense, sensible behavior, and oftentimes the effect is humorous because it allows for opposite and contradictory meanings to coexist. Jarry abides by the principle of "convertibility" because a text may have contrary meanings at the same time, and identity and difference may turn out to be the two sides of the same thing.

In its very title, *Seguro azar*, Salinas's book suggests Jarry's principle of contradiction for it attributes certainty to something as unpredictable as chance. As in *Presagios*, where Salinas confronts the shadow in the visible, *Seguro azar* deals with the unpredictability and incompleteness of perception, but also with the realization that there may not be a world out there beyond what we see. As Palley notes, the certainty of this uncertainty is the source of creation as "for the poet, for any artist, chance is more fecund than causality" (31). *Azar* (chance) is part of the poetic enterprise, which involves for Salinas an adventure one takes "with all that beauty involved in risk, probability and gambling," which he also attributes to the *malentendu*. The notion of chance as knowledge, which is also part of a premonition, approaches reality in ways that are not always causal or rational. We may get ready for the possible pandemonium that may ensue, as Jarry's lines say, but defense against it will be little or none because it is difficult to grasp as it hides in the in-betweens of shaky constructions.

The collision of chance and certainty is central in modern physics as the Newtonian world frame was being replaced by the universe of quantum mechanics. The centrality of chance in the constitution of the universe was already established by Charles Sanders Peirce in 1892, and quantum mechanics would prove the limitations of measurements because chance affects any attempts to reach accuracy. Heisenberg is the scientist responsible for identifying the principle of indeterminacy ruling the subatomic world. He maintained that quantum mechanics brought back into physics the notion of potentiality; observation would itself affect the wave-particles under observation (*Physics and Philosophy* 4). All attempts to know simultaneously and accurately the position and momentum of an object proved impossible. The world

of perception in quantum mechanics did not match with the world of causality assumed since Newton. In view of this situation, uncertainty imposes itself and the possibility that nature may be ruled by irrationality, and even the possibility of chaos, or Jarry's pandemonium, becomes quite real.[8]

Reality as perception-dependent was first formulated by Berkeley, meaning that what we understand as reality is what we perceive. Kant proposed a different way of knowing reality because he believed that nature and its laws were forms that the mind imposes on our way of knowing. The world is not merely apprehended by physical eyes, but by an inner sight seeking for forms beyond what is visible superficially. In vision science, perspectivism followed from the study of stereoscopic vision, which showed "perceptual subjectivity and relativity" (Vitz & Glimcher 111, 126). For Karl Pearson, the universe is "a variable quantity" because it is "largely the construction of each individual mind." Therefore, space is "an order or mode of perceiving objects" with no existence as "itself a thing" (18, 134), a notion that applies to many poems in Salinas's book. The overall picture has no center or point designated as holding more importance than any other. Poincaré, a scientist very much admired by cubists, spoke, as Ortega y Gasset also did, about the relativity of perception and did away with the idea of a "ready-made" space preexisting experience; instead, he understood space in connection with sensations and movements. Space is, thus, relative because the only way we can know the position of an object in space is in relation to other objects (*Mathematics* 15–16).

Most critics have approached *Seguro azar* as the book in which Salinas displays his love for modern technology, geometry, and numbers.[9] Critics, also, coincide in judging the poet's attention to technology as a "passing thing" soon to be replaced by his real love, that is, nature and humanism. Stixrude insists on the need to read Salinas's poems on technological advances with an ironic mind, and joins others in claiming that Salinas's real love resides elsewhere. It is in the poet's later works, to which Stixrude's analyses often refer, where the poet outgrows his youthful skirmishes with technology and writes on nature and eternal values. For Mayhew, almost all the poems in *Seguro azar* deal with poetic language, and references to machines, electricity, and other technological advances reflect the artificial, antimimetic nature of poetic language (*The Poetics* 42). Critics, overall, have rightly connected Salinas's admiration and love for technology as intrinsic to the avant-garde. There is no study, however, that takes Salinas's interest in modern technology and geometry beyond the

faddish, passing liking and considers it as a place for the poet's reflection on poetry, reality, and perception.

But in fact technology, like toys and gadgets, because of their particular relation to reality, holds an important place in Salinas's view of the world and art. The playfulness and uselessness of toys, and the manipulation of reality by technology, combine with the increasing importance of chance and unpredictability in physics. Relativity, the state of motion of everything in the cosmos, and quantum mechanics were showing a view of reality devoid of any static or fixed features. On the contrary, everything was revealing a floating, unstable, noncausal nature that in Salinas finds expression in toys, gadgets, technology, and in the certainty of chance.

Salinas's love for toys and gadgets has been well-documented by friends such as Guillén and by his own daughter, Solita. She recounts the time when her father was granted the chair at John Hopkins in 1940 and the family moved to Baltimore. In the house they bought, her father

> invented . . . a decoration piece full of grace and fantasy, an enormous reclined Ariadne, made of ropes which upon reaching the head dissolved in a long head of hair, and covered the whole wall. In order to place it on the chimney mantel, he had constructed what he called a plastic poem: a bucket made of glass inside which the mermaid from Alberti's poem *Branquias quisiera tener* (I Would Like to Have Gills) was rocking in her submarine orchard. ("Recuerdo de mi padre" 38)

The ropes/wires of Ariadne's long hair suggest the thread that helped Theseus come out of the labyrinth. In poems about modern technological advances by Salinas and other authors, telephone lines and telegraph wires are depicted like hairs spread over the urban landscapes connecting distant parts and people. The emphasis on the hair of Salinas's creation suggests a new muse for the modern world of telegraphy and electromagnetism. Her spread hair, like the wires crisscrossing the air, echoes Faraday's "lines of force" in the field of electromagnetism (see introduction). The power traditionally associated with hair is conveyed in these examples by currents of light and energy in the electromagnetic field. Salinas's intertextual link of his Ariadne with Alberti's mermaid is justified as both are female figures inhabiting a sort of ideal world of poetry and creation. Their long hair may be the poet's guiding ropes in the poetic search. Both seem light, floating, subtle presences that suggest open possibilities versus fixed stances.

In its title, the opening poem, *Cuartilla* (Paper Sheet 107), refers to a blank sheet of paper, which, one surmises, is in front of the poet on his desk as he looks outside his window on a snowy, winter day. The outer and inner landscapes merge in his regard, as the flow of elements in the outside suggests a world filled with vitality; it also signals what might be taking place inside the poet himself as he gets ready to write. The merging occurs when the tip of the pen touches the sheet of paper to write the words for the poem we are reading.[10] Although the paper sheet is not directly mentioned in the poem, its whiteness is conveyed through images of white, light, supple elements (flakes, marbles, snows, feathers) mixing in whimsical activity. Even when the lines refer to something solid, such as columns, they are described as "very light, / slippery" and their role as supporters comes into question when what they support is "ceilings of white clouds." The white plane of the sheet of paper is corroborated in the outside activity of elements mixing freely.

Energy is a central theme in avant-garde writing and art.[11] The Newtonian world of static notions of space and time, which Euclid and Archimedes had designed, was on the way out in view of modern discoveries in thermodynamics, electromagnetism, and relativity. In 1905 Einstein analyzed Brownian motion or the random movements of molecules. The name comes from Robert Brown (1773–1858) who, in 1828, discovered that when viewed under a microscope and in liquid, grains of pollen moved in a random fashion and on their own. Such discovery was radical at the time because scientists were not altogether certain that atoms and molecules truly existed. Einstein, who believed in atoms, published his findings in a paper entitled "On the Motion of Small Particles Suspended in Liquids at Rest Required by the Molecular-Kinetic Theory." "Random walk," the term used to describe the way particles move in Brownian motion, was due, according to Einstein, to heat transfer causing them to move in a liquid (Fox & Keck 39–41).

Salinas's poem may be read in analogical association with Brownian motion and with the energy vibrating in the air. What we see is what the poet sees through the window, that is, a scene of elements interacting in an ongoing, seemingly random movement. There is no linear motion but clouds, snowflakes, doves, and feathers intersecting with one another. The poem suggests the geometry of Karl Fredrich Gauss, Nikolai Ivanovich Lobachevski, and János Bolyai who questioned the truth of Euclid's geometry, particularly the fifth postulate on parallel lines. In 1854 Georg Riemann also did away with parallel lines in his unusual geometry; furthermore, he contested the belief

that the shortest distance between two points is a straight line; in his geometry it is an arc.[12] In Salinas's poem, the outcome of this "random walk" of elements is the victory of color with the coming of dawn. For avant-garde painters, color was the means to express the energy of phenomena. According to color theorists such as Rood and Helmholz, before color is anything—a group of people, a landscape—it is "essentially a sensory experience of colors arrayed on the retinal surface in a certain order" (Vitz 73). In this regard, the white snowflakes in the poem, like the paper sheet, are the foundation from which color/inscription emerges together with the coming of the new day. The poem does not convey the content or form that the word/color will shape, but the energy from which form emerges. The focus on the pen, and more specifically on the "steel point," indicates the concentration of energy that is necessary for the word to materialize. Reminiscent of God's finger touching Adam's in Michelangelo's Sistine Chapel ceiling, this is the dawn of creation.[13]

Figuraciones (Imaginings 108) is the closest to a definition of chance, although the very nature of chance dismantles all definitional constraints. The three strophic groups of the poem, which begin with the verb *Parecen* (they look like), are not statements but imaginings or figurations. What appears to be clouds could be sails, feathers; the winds mark directions that change or are no directions at all, and chance floats in the breezes with a direction that could be certain or uncertain. Nothing "is" or remains in one form or shape; being becomes seeming, seeming is being. What remains certain is uncertainty and chance. The certain uncertainty of the scene designs a world in floating movement with no fixed, stabilizing point and ruled by unruly chance. However, its cunning movement is full of determination even though its goal is deceit: "how surreptitiously, how surely / it moves with the home-loving / drift of illusion!" Deceitful chance, like the *malentendu*, is the base of this poet's worldview as a scenario where semiosis of double and triple meanings, mixings, confusing juxtapositions, and uncertainty occur. *Malentendu*, which for Salinas is a superior tool for interpretation, indicates that reality cannot be assessed from one single viewpoint. Things are what they seem, and what they seem may not be what they are.

During the mid-1920s, when *Seguro azar* was published, quantum mechanics was revealing a view of reality filled with uncertainty, as Heisenberg's uncertainty principle stated. It was not possible to design equipment that could determine which of two alternatives is taken without, at the same time, destroying the pattern of interference (see Feynman 136), and a single measurement could not determine

the momentum and the position of a particle simultaneously. Danish physicist Niels Bohr (1885–1962), then, defined the principle of complementarity, which states that sometimes an object can exhibit properties that appear contradictory. Depending on how we measure, a photon can behave as a wave or as a particle, although both cannot be observed at any single measurement. In reality, the figure exists potentially as both at the same time, but we can only perceive or view them singly, and never together. Bohr's complementarity addressed the need to integrate the duality of light, as well as the determinism of classical physics in macrocosmic systems and the indetermination of microcosmic systems found in quantum mechanics. In Salinas's *Figuraciones*, everything is in flux so that if the observer were to fix his eyes on one particular aspect of the scene to the exclusion of the rest, position would be favored at the expense of time; but if he were to assert the mobility of all elements, position would then be compromised.

As modern physics had established, this poem questions objectivity and the belief that the universe is made of discrete elements. In the poem, elements mix and limits blur. As in quantum mechanics, the reality it depicts is intrinsically tied to the observer and emerges from a variety of possible combinations. There is no causality, things seem elastic in this "uprooted and weightless" view. "Reality no longer *is*, but *becomes*" (Caro & Murphy 4, 55; emphasis in the original). There is no specific essence of anything; everything can become everything else. Just as with Jarry's "convertibility," Stixrude speaks of a "value reversal" in this poem as deceit becomes certain and "to take the wrong direction" means to be in the right course (68). In other terms, the poem reverses conventional beliefs about dimensions, directions, and being, not as a simple game of deceits but as the reflection of a new worldview. The "reality" of the poem is not objective, but the creation of the observer's perception. This "anthropic" approach, as it is known in quantum physics, refers to the effect of the observer on the thing observed. Perception is fused with the cosmos (Caro & Murphy 38). What Salinas calls chance is what physicists define as the indeterminacy of the physical world. Chance permeates everything as it goes "between voices, between magnets, / between shores, out there, up high, / free!" This seemingly chaotic state is filled with creative energy, for its probability is equal to its potentiality. As Hayles states, chaotics "envisions the world as rich in unpredictable evolutions, full of complex forms and turbulent flows, characterized by nonlinear relations between causes and effects" (*Chaos* 8). Salinas's chance conveys the ongoing expansion and creation in the world's unpredictability.

Contrary to Einstein's dictum that God does not play with dice, this poet places his "declaration of faith" in his "round / certain chance" (158). Wilson and Bowen relate uncertainty in physics to Derrida's *différance* since indeterminacy in language, in relation to the external phenomena it tries to convey, gives room for paradox, puns, irony, ambiguity, and hidden meanings (108, 110, 117), or for what Salinas calls *malentendu*. Because of chance, which Pierce calls the "basic factor in the universe" (Jammer 587), the more we try to measure something and verify the measuring instruments, the more certain it is that they will show irregular departures from the law. Those departures are caused by arbitrary determinism or chance. The certain uncertainty ruling this poet's worldview is present throughout the collection, as exemplified in *Otra tú* (Another You 109), *Vocación* (Vocation 110), and *El zumo* (The Juice 112), and most specifically in *Don de la materia* (Gift of Matter 124), *Nivel preferido* (Preferred Level 146), and *Amiga* (Girlfriend 159).

As in *Vocación*, where the speaker opts for closing his eyes in order to contribute to the creation of reality, in *Don de la materia* it is the game between flames and darkness that configures the evanescent nature of reality. The dense darkness at the beginning of the poem is reminiscent of the formless, primeval origin of the world. The flame of fire suddenly brings out forms that, as "fugitive realities," escape when the fire is extinguished. That's why the speaker confesses his nostalgia for the presence of basic things: "Nostalgia / for a vase upon a table." In darkness, his sense of touch becomes his instrument of knowledge, "the light of touch"; with his fingertips the speaker confirms the existence of mass:

> Perfect, deaf, colorless
> life is confirmed for me—
> I feel it, certain, lightless:
> the deep reality, matter.

These lines, rejoicing in the presence of mass, confirm that *trasrealidad*, or the imponderable, does not refer to a transcendent level beyond reality; rather it is woven in the inner core of mass itself. The flame that brings life to things in line five resonates with the biblical "Let there be light!," but light affords a knowledge that is ephemeral because when it goes out, things become "fugitive realities." Light is energy, which is mass; it could then be said that light can "wring matter from out of the nothingness of the void" (Shlain 325) as easily as it can return them to nothingness. Just as it was the speed of light what

dismantled Newton's world of certainties, it is also light in the poem that creates and undoes the world before the poet's eyes.[14]

In *Amiga*, the poet wants a beloved made of glass or crystal, the same material he used for the Ariadne he constructed for his house. She would have a presence, but she would also be invisible or transparent so that the world would go through her without any interference. A mirror, on the other hand, would play with reflections and distort reality: "true presence without my seeing you. / Crystal. / Never a mirror!" Ortega y Gasset also resorts to the image of "crystal and transparency" to refer to the work of art, noting how most people never pay attention to it because they go straight to the human content in the work (*Obras completas* 54). In transparent objects, the typical bump against the surface of objects does not occur because, as Ortega y Gasset notes, "The essence of crystal consists in serving as transit for other objects." Salinas's crystal girlfriend is the metaphor for a kind of poetry that fuses with what it purports to represent, poetry before the fall into self-consciousness. Crystal is chosen because it is a metaphor for perfection due to its symmetry and durability, which recall the geometry of the cosmos. In Ortega y Gasset's words, the crystal beloved is "an object that fuses the double condition of being transparent and the fact that in its transparency, it is not something different, but itself" (152).[15] Transparency is not mimesis but the identification of poetry with the object it purports to represent.

Discussing the *Mio Cid Poem* in *Reality and the Poet*, Salinas, in turn, elaborates on transparency and what it means for him: "The poem is exactly what a glass is for the water in it: a form made of clear and transparent glass which holds the liquid without affecting its color or taste in any way" (*Ensayos* 25–26). The crystal girlfriend would certainly be an idealization, an "objective marvel" untouched by "the world, that product of man, analysis, doubt, interrogation." Further on Salinas refers to crystal as "Adam-like" poetry, "poetry of the first vision of the world that surrounds us." He looks at that view of reality with "nostalgia as for a paradise lost . . . where reality and poetry lived in peace and effortless conformity within the soul of man." The war between reality and poetry came later and from it, the exile from that paradise of unity (*Reality and the Poet* 29).

Salinas's desire for a type of unobtrusive glass poetry through which to "see" the world echoes the popularity that the luminiferous ether enjoyed among scientists and artists. As a substance-less and elastic medium, the ether was believed to connect distant bodies without its intervention being seen; it was believed to explain action at a distance, filling space between objects, transporting waves of light and sound

and thus working as a mediator for gravity. With ether, it became possible to understand how light travels from one point to another across a vacuum, or how gravity could act across empty space. However, ether could not be proved to exist in spite of several attempts to find evidence of it. Albert Michelson and Edward Morley in 1887 devised an experiment with two light beams, one traveling in the direction of the ether and the other across it. The idea was that "if Earth travels through the ether . . . a light beam traveling against it and back should take a shorter time than a beam traveling across it and back, even if they travel the same distance." Michelson and Morley tried the experiment several times and every time the two beams took the same time to travel. This put in serious question the theory of ether (see Fox & Keck 167–171). In spite of their sophisticated experiments and calibrated instruments, they were unable to find the slightest trace of the ether. Although Einstein proved irrefutably that it did not exist, the ether played a huge role in the early 1920s in sciences as well as in the arts. Salinas's crystal beloved remains also an ideal whose existence, like ether's, cannot be proved.

Números (Numbers 129) establishes a comparison between the alphabet of stars that the August night displays in the sky and the numbers that two men, sitting at the table next to the poet, exchange as they do their calculations. The faraway distance of the stars in the sky contrasts with the proximity of the numeric constellations at the next table. Although the stars offer a clear alphabet for the night, the poet does not understand it and, instead, prefers ciphers that he describes as "more beautiful than galaxies." They traverse the silence as "pure wandering stars," signs of good fortune with their tails filled with zeros. The poet is ravished by their sight and can only exclaim in admiration: "—what a perfect constellation: / three times three is nine!" Although Ariadne seems enticing in her nakedness in the horizon islands, her saving thread and notions of the labyrinth do not hold any interest for this poet whose attention is focused on the marvels of horizons close by. The labyrinth, "the uncharted material world in which humanity was born and which it forever struggles to understand" (Wilson 67), is not a space this modern poet wishes to inhabit. Just as he marveled with the concreteness of mass and the pure forms of geometry, numbers offer him a concrete alphabet to decipher reality devoid of occultist explorations that would only deviate from the truth of things. The simplicity of numbers reveals an imponderable side of beauty and truth that more adorned and elaborated forms hide.

The ironic approach that some critics apply when reading these poems may be a way to deal with the unexpected situation of a poet

who prefers something as lowly as numbers over the beauty of stars. There is no lack of seriousness in these preferences, for the poet may very well be parodying the high and lofty goals of traditional intellectual and artistic endeavors. More often than not, artists and thinkers have discarded basic realities in favor of metaphysical and philosophical goals considered to be much worthier; such enterprises are often accompanied by arrogance and pedantry, attitudes that Salinas despises. Salinas's poet disregards the mythological Ariadne and other intellectual approaches because the enticement of mystery and the labyrinth is not elsewhere, but all around. Numbers, like the Adam-like language Salinas remembers as a lost paradise, hold the key to reality if we are willing and able to read them. Like theoretical physicist Paul Dirac, who admired the beauty of mathematics for its "symmetry, economy of form, a depth of interconnection with other parts of mathematics, and the maximum of structure from the barest of inputs" (Barrow 345), Salinas finds in the complex simplicity of numbers the key to the beauty of reality. So did Einstein when he recognized the need for mathematics to articulate the world of relativity he had first approached as a thought-experiment. The theory of relativity "introduced mathematical beauty to an unprecedented extent into the study of Nature" (cit. Barrow 346). As Salinas writes in *Reality and the Poet*, he always thought that the number one hundred, with its one and the two zeros, was of extraordinary simplicity and beauty. The common tendency is to forget that one hundred comes from the addition of many small numbers, which slowly make the final sum. As when he referred to poems in *Presagios* as links in a chain, Salinas asserts that "every poem is a sum, the finding of a single number, in which the rest are indeed included but no longer recognizable, raised to a single result" (104). This connection between numbers and poems implies considerations of parts, wholes, and their interconnection. In this sense a book of poems is a system that, like a numerical formula, offers individual cases of experiments with reality while the whole, as a total sum, offers the variety and complexity of such knowledge.

Seguro azar is a book in which the playful approach to life and art is central. Playfulness translates into floating and suppleness as states of imprecision but also of openness and creative possibility. Technological advances, like viewing the world from something in motion, or constructing toys and gadgets, do not conform to traditional ways to assess the world and art. That Salinas prefers them reflects his perception of the changing nature of the world and of the modernity of his vision. For Salinas, technology is not a deterrent for

art and creativity, or the destroyer of the world of the imagination. On the contrary, technology inspires such imagination and contributes to creation. Salinas approaches technology as a world filled with possibilities. The poet does not have to wait for the muse to visit him; he is in control. As Mayhew says, technology is like poetry because it is antimimetic. The poet does not have to wait for the muse to visit him; he is in control. In order for "creation" to occur here, he just has to press the light switch of his own making and inventiveness.[16]

Fábula y signo: The Reality of Fabling

This book epitomizes the modernist aesthetics of the middle position between observer and observed, reality and representation, the visible and the imponderable, a perspective that the two elements in the title summarize: "fabling," or the perceiver/artist's creation of perspectives and worlds, goes hand-in-hand with the sign as the instrument supposed to denote reality. It can also be viewed as Salinas's version of the chancy and constructed nature of reality that physics was revealing. Considering the observer's central role in creating reality, it is telling that the first poem is entitled *La orilla* (Seashore 165). That liminal space between the sea and the earth is in the poem the intermediate position between infinite potential and endings, fullness of completion and nothingness. When the end is just around the corner, the speaker's advice is to deny it by "pretending" fulfillment, which is similar to the process that takes place with language where words are masks to deter the silence or absence of the thing. By proclaiming satisfaction to cover up for lack, this pretending and trickery is the active agency of an observer set on manipulating his world. Fabling is his instrument and, like Scheherazade and her thousand and one nights of storytelling, it makes it possible to avoid being "at the edge of the end." Technological advances have contributed to fabling in a new way, and Salinas explores this potential for accessing new worlds.

The "seashore" is the place where the trickery of fabling occurs, because its liminal nature makes it possible to be here and there at the same time. It is an unpredictable ground where creation remains open and flowing and meanings are not fixed. In this sense, fabling corresponds to life and energy as it keeps things in motion. The "seashore" is, thus, the site of multiple perspectives, an energized location comparable to the cubist attempt to merge background and foreground by means of unstable boundaries susceptible always to new configurations. For that reason, fabling implies linking, implies connections. It thus shares features with the *malentendu* as shifting ground of

indeterminacy and open potential, and evokes the unpredictability or indeterminacy in modern physics. That's why the speaker in the poem calls for the need to "pretend" that satisfaction has been reached. "To pretend" is intrinsic to the activity of "fabling" because it asks one to believe even when there is no guarantee or proof. If in the two previous books Salinas explored the unpredictable nature of the cosmos, in *Fábula y Signo* the poet is asking us to place our faith on what defies all faith and belief. The poet and his fabling are constructions whose fiction is our only faith.

"Amsterdam" (175) identifies a European capital as the background for "fabling" or the production of signs. In the night the beloved's eyes (whether it is woman, the imponderable, poetry) reflect the letters and colors of an electric sign with the name of a movie theater, *Universum*. Echoing the Platonic belief that eyes are the mirror of the soul, the poet wonders if those are lights from the woman's soul. Is he glimpsing into the depths of her being? He soon realizes that the lights are reflections of the movie theater, not glimpses of some spiritual truth. But the question invites the consideration that the poet has actually glimpsed the woman's soul via the luminous cinema sign, and via his own amused pretending. The woman appears innocent to him because her eyes do not point to some inner, subjective, and unreachable realm but instead reflect and fuse with the outside lights. She, in her eyes, becomes a screen for the lights and, in a sense, she becomes the lights. This "You" is fused with her surroundings for her eyes reflect and are the lights in the night so that surface and depth, reality and cinema, the personal and the objective, Amsterdam and the universe, mingle as a totality of reflections constituting reality. That's why the theater lights blink in the night like a palpitating heart. The speaker promises the "You" to buy all the colors of the night as soon as they open the shops. And he will do so because he is the master painter combining the different colors for the tableau of life he is fabling in the poem. The lights in the soul are connected with those in the theater as they are reflected in the beloved's eyes. All is a game of reflections, a circularity of colors in motion. In this poet's exploration of the imponderable in reality, this poem makes suppositions about the lights from a luminous ad and the lights from the soul. They meet in the "You," or beloved, where the inner and outer realms fuse. Technology may open up the possibility of looking into the soul, of revealing other realms, or at least invite to invent or imagine them.

In "Underwood Girls" (203), the keys in the typewriter hide "a great secret soul" waiting for the fingers to bring them to life. While

in the outside they look "like round, white clouds," inside they contain "thunder and lightning, / destinies of slow rain, / of snow, of wind, signs." The power of modern technology to create new worlds is evident in the typewriter since each of its thirty keys (in Spanish) contains one letter of the alphabet: "All of them together / support the world." It only takes the touch of the fingertip on the key. The goal is not to articulate expected messages, such as letters or formulas. Instead, they are to be thrown "against the great empty world, white on white." As in *Cuartilla*, to write on white dissolves causal, logical inscription: "without words, without meaning, / *that z, j, i*..." The invention of the typewriter places at the poet's fingertip the capacity to overthrow all logical order and to play with the letters at will. While in appearance the typewriter has codified and regulated language seemingly affecting the mystery of poetic creation, it has also afforded a level of whim and freedom that allows for unexpected ways of creation. Salinas's exploration of modern technologies reveals their power to create new worlds and to investigate the realms of the imponderable. That thirty keys may configure messages by the mere touch of the fingertips is an amazing notion, for it allows the poet to throw letters into the air like a magician waving his magic wand.[17]

Salinas's poems in this book focus on objects that humans have created and surrounded with a set of conventions, examples of virtual reality. While the poet rejects materiality when it is static and immobile, part of a structure devoid of living vibrations, he welcomes the burgeoning energy these objects generate. In *Estación* (Train Station 187), the concrete and the immaterial are confronted once more. The train where the speaker travels at night passes by the station of an old city built with stones and endowed with "its Bishop and its social club." The poet learns of this city standing on the hill when its name is yelled out as the train approaches the station. He wakes up to the name of the city transmitted "in the waves of the wind." Although this "magic acoustic city" is known to him only by hearing, it has more presence and identity than the stone city solidly grounded on the hill, "tied down to its centuries" overlooking the landscape. The acoustic city exists for just a minute, the time it took to yell out its name and let it be transmitted through the air. The airy, supple identity is preferred to the solid, stony one because it captures the living, vibratory energy of space. Being and identity are not determined by the traditional standards of presence, location, and historical standing but according to something as immaterial as sound and air. As in other poems, Salinas rejects concrete presence where life has been supplanted by stasis and favors the trembling nature of living energy

as represented in sound waves. The solidity of matter is no longer guarantee of identity since x-rays, wireless telegraphy, and telephony were proving that matter could be traversed and space was no longer empty. If someone could be heard, contacted, and even seen from the inside by wires and other machines, how could matter hold on to the monopoly of presence and identity? The acoustic city is "supplanting" the other, solid stony city just as absolute values were being supplanted by the modern physics of electromagnetism, relativity, and thermodynamics. At the train station, a transitory space such as the "seashore," being and identity have their long standing questioned.[18]

In the case of "Escorial I" (190), the famous structure built under king Felipe II's rule represents being in terms of presence and solidity. It is so totally done and complete that it is beyond life and time, standing still in a perfectly Euclidean environment. It demands to be viewed from an equally stationary point of view that is organized according to a vertical and horizontal axis. According to this monument, reality (space, time, and light) is fixed forever. As with the contrast between the acoustic city and stony city in *Estación*, Salinas contrasts the Escorial with a swift telegram or with the train ticket for a first trip. Both the telegram and train ticket suggest communication, contact, change, and motion through the air; the Escorial, however, is grounded and enclosed within its own self. With this dualism, Salinas reflects on two different artistic styles, one set on definitive, certain rules, one open to experimentation and to uncertainties. With the first, no change will occur or, in other words, no life. With the second, relativity will bring unpredictability but also vibrant life. The modern view of reality and writing may be shifting and unstable, but it is alive.

Jardín de los frailes (Garden of Friars 193) represents the opposite case to "Escorial I" as a square structure loses its rigidity in the reflection of its stone walls in a pool of water. The passage from stone to water, or from fixedness to fluidity, corresponds to the deconstruction of a Euclidean order by the world of relativity created in the water. The square shape is warped and curved in the reflection producing the same effect of concentric circles around a center as when a stone is thrown into the pool. There is the intimation that the water's reflection represents a fall, in biblical terms, for the square shape and sobriety of the garden become "curves of temptation" in the water. Also, the free expression of desire, "green, blue desires in the waves, against the rectilinear centuries," arises from the water's reflection with no restraint. That this opposition between stone and water is made in connection with religion and national monumentality suggests a critical comment against the structured order of society.

It comes about by the curious self-conscious gesture of looking into the waters, a subtle allusion to Pandora's curiosity letting out all the world's evils. Here, however, what is let loose is not evil but the garden's soul from the corpse of the stone where it had been imprisoned. The poem's meaning surpasses then the apparent surface game of reflections. Instead of stone, rigidity, sobriety, monumentality, noncolor, reason, and the endorsement of centuries of established order, the poem favors water, fluidity, suppleness, the ephemeral, color, emotion, and present presence. The loss of innocence involved in the self-conscious search is balanced out by the potential of creativity it affords. In the duality between art and reality and art as fabling, the *malentendu* emerges as an intrinsic component of reality whose presuppositions about solidity and "truth" are questioned.

Fábula y signo deals with liminal spaces standing between water and earth, earth and air, feigning and denoting, surprise and planning, the static and vibrations, the technological and the living. Salinas shares with modern physics in the exploration of nonvisible, as-yet-unchartered universes. On one hand, he rejects the solidity of structures and beliefs because they discard or attempt to arrest the trembling nature of potential and life. On another, he praises the concrete, material form of inventions as ways to access levels of reality that would otherwise remain unreachable. His love for gadgets and for technological advances surpasses the superficial avant-garde admiration for the new. It resides in an understanding of technology's capacity to explore unknown territory and to invent new ways of life. Salinas reaches out to new worlds and, just as Scheherazade maintained life through her fabling, Salinas reveals the unavoidable link between life and fable, denotation and connotation. He states openly that our faith resides in feigning. Such an apparent contradiction makes of feigning or fabling, or chance, or the *malentendu,* creative activities that hold our faith in the certainty of life and the cosmos. There is no predictable, certain, and fixed way for the world to be. But there is our capacity to invent in order to reach to the truth and to base our faith on the predictability of the unpredictable. As forms keep changing in this non-Euclidean world, the Ariadne toy he built for his home becomes the muse for the exploration into ever-flowing realms. The ropes forming her hair double the waves transmitting energy in the electromagnetic field and the wires in telegraphy and telephony. She is the muse that will lead Theseus into the world of the imponderable.

What emerges from the analysis of these three books is an ongoing exploration of reality; of the observer's role in assessing reality, and

how the merging of observer and observed determines the understanding of reality. One evident conclusion is that Salinas cannot be pinned down to one viewpoint. Salinas shares with relativity and quantum mechanics a readiness to engage in the dismantling of well-established views on reality, identity, and being. As Bohr stated in his "Copenhagen Interpretation of Quantum Mechanics," it is not possible to stick with one viewpoint because everything presents a vast array of options. The observer, or the mind, and the world are inextricably linked and the world is such as it is observed. The main notion of Bohr's essay addresses the necessary participation of the observer in the creation of the world. And this exploration takes place with words that are for the poet what matter is for the scientist. Salinas has compared words to shadows and has repeatedly spoken about their intrinsic correlation with the *malentendu*. In his view of reality and writing as a mixture of shadows with light, certainty with unpredictability and invention with reality, Salinas creates a world of unstable, ephemeral truths in constant mobility as well as ongoing creativity.

Chapter 2

Jorge Guillén's Radiant Matter: A Sensational Knowledge

For Jorge Guillén the paradigm-altering advances in science brought no estrangement between science and the arts. In *El argumento de la obra* (The Argument of the Work), the poet recognizes the high level of intensity that poetry has achieved in the last 150 years since romanticism, and contradicts those who predicted an even greater divide between science and the arts (105, 1969 ed.). The traditional split between science and the arts, which in 1959 C. P. Snow called the two cultures, does not find a supporter in Guillén for whom the same creative energy infuses works in both fields. He also finds that there is harmony between imagination and discipline and between rhythm and what he calls mathematics of the image. He even identifies a way of focusing on numbers, which instead of obstructing passion, energizes it. This *pasión cifrada* (coded passion), as Guillén calls it, has its strongest exponent in his own work *Cántico* (Canticle).[1]

As Cano Ballesta notes, Guillén's own generation took *Cántico* to be "the quintessential expression of a new poetic sensibility that was oriented toward the delectation of external objects and wonder at the marvels of the concrete world" ("Jorge Guillén and the Young Poets" 136). Guillén's magnum opus represents the intensity in poetry that he himself identified in the Zeitgeist of the period (*El argumento* 137), an intensity that left romantic subjectivity behind and focused on physical reality. Most critical studies of Jorge Guillén's *Cántico*, among the daunting number that this work has generated, focus on this poet's view of reality as a realm of harmonious interrelations among different elements in a present time of plenitude. This spectacle of reality

holds such fascination that this poet turns his speaker/observer into a *raptor*, a kidnapper of the plethora of sense-impressions the world presents. With an attention Guillén describes as "courteous" because it is not rushed—a regard that seeks to recover some of the lost ideal of *otium* (leisure time)—his poetic observer looks at reality with Ruskin's innocent eyes, discovering and recreating each experience; in turn, reality reciprocates such courteous attention with *esplendidez* (magnificence) and *candidez* (simplicity).[2] This gracious exchange, between the observer and the observed, gives proof of the "coded passion" or harmonious combination of imagination and discipline.[3] As was the case with his friend Pedro Salinas, Guillén's agency of perception seeks the beyond or *trasrealidad* (beyond what is real) in things, what Ortega y Gasset calls a *trasmundo* (beyond the world) of the thing (*Obras Completas* I, 335–336) or its essential dimension. Under his acute and focused regard, matter assumes the quality of "radiance," which, in turn, brings forth in the observer a multiplicity of sensations. It is the convergence of radiant matter and sensations that constitutes reality for this poet. This chapter reads Guillén's poetry in analogical relation to the work on sensations and visual science developed by Austrian physicist Ernst Mach (1838–1916).

Mach, whom Einstein called the forerunner of the theory of relativity, rejected Kant's notion of "thing-in-itself" as superfluous for the pursuit of knowledge because it could not be observed.[4] Instead, he asserted that what we see as "bodies" or objects are made up of complexes of sensations whose interdependence should be the goal of scientific investigation. Discarding the old notion of causality, Mach proposed the mathematical notion of *function*. In his seminal work *The Analysis of Sensations*, Mach studies sensations as *functional relations*, the dependence of experiences on one another.[5] Very much influenced by Mach's ideas, *The Grammar of Science* by British statistician Karl Pearson (1857–1936; the first book Einstein asked his study group *Olympia-Academy* to read) further developed the field of perception with an analysis of stored and immediate sense-impressions. These changes in the science of visuality and perception were precedents for the theory of relativity and the research on light and energy. Light in physics refers to the kind of radiant electromagnetic energy that is associated with vision; it includes the entire range of radiation known as the electromagnetic spectrum. Mach's focus on the interdependence of sensations on one another is directly linked with Maxwell's theories about the electromagnetic field.[6]

The central role of perception in Guillén's work fits well within a tradition stemming from the dismantling of the hierarchical worldview

prevailing since the eighteenth century.[7] As Newtonian and Cartesian absolutes gave way to a more immediate and concrete method of seeking knowledge via observation, compilation of data, analysis, and formulation of laws, the sciences directed their attention toward the study of increasingly smaller units—the cell, chromosomes, genes, atoms, neutrons, electrons, protons, and so on. Part of this focused attention to reality is the development in the analysis of light, color, depth, and distance. People such as Goethe (1749–1832), French chemist M. E. Chevreul (1786–1889), and physicist Hermann von Helmholtz (1821–1894) developed experiments on how these various sensations interrelated with one another. What emerged from these works was a model for subjective vision in which the body became physiological ground.[8] Like the views of these scientists, Guillén's writings on the creative process are very much focused on the relational aspects linking the various elements involved in perception: "Everything depends on the context," affirms Guillén in *Language and Poetry* (214).

Guillén's focus on the relational and sensational nature of reality and knowledge is connected with the scientific developments just described and that so much determined the tenor of this poet's time. However, with the exception of some essays and casual references, there is no substantial study that examines such connection.[9] Most critics remark on the fusion of the concrete and the abstract in the poet, mostly in regard to the philosophical discourse of the time (Ortega y Gasset's or Leibniz's), or to Valéry's pure poetry, but seldom or never to the scientific discourse that then was dealing with the knowledge of reality in a post-Newtonian world. Guillén represents an integral part of the project for the modernization of Spain that Ortega y Gasset and his generation had laid out, and his poetry offers ample evidence of an interest in reality, which he asserted throughout his life. In a letter to Kimon Friar, his American translator, Guillén wrote: "My metaphysics is physics: for me, the other world inhabits and is found inside this one. I believe in the restitution of justice which I identify with light."[10] Guillén's focused attention captures the object in reality by way of conglomerates of sounds, colors, textures, and temperatures, which, associated with certain states of mind, desires, and feelings, become constructs about reality (Mach, *The Analysis* 2). The most prominent sensations are engraved in memory and expressed in language where they become verbal analogues of sense-impressions.

Guillén's viewpoint on reality, and his approach to his opus as a whole, unified body of work, echoes the nonatomistic worldview in modern physics, the role of sensations and their interdependence in understanding and constructing reality, the merger of the observer

and the observed, and, consequently, the transient, but ever creative knowledge emerging from this changing picture. The five sections in *Cántico* are united in their attention to the outside world and their search for knowledge on what tends to be taken for granted because, as Heidegger notes, it is right there in front of our eyes. *Al aire de tu vuelo* (To the Air of Your Flight), section I, focuses on the surrounding world, the air and light where objects emerge in all their radiance under the attentive perception of the observer poet. *Las horas situadas* (Situated Hours), section II, addresses the trembling or "thinness" in the nature of time and space for, as the observer continues with his search, the world is not becoming more solid and static but, instead, it further reveals its transient, convertible nature. In *El pájaro en la mano* (The Bird in the Hand), section III, and continued in the last two sections, *Aquí mismo* (Right Here; IV) and *Pleno ser* (Full Being; V), the observation moves further into the dimension of depth. As this organization shows, *Cántico* is an exploration of reality, of things, and of the observer/poet whose attentive eyes and words construct it. The progression toward depth does not mean a departure from reality itself, but a move to a more complete grasp and understanding of it. Writing, and the poem, in particular, coincides with the depth dimension, for it is in the words of this book that reality finds its *trasmundo* or essence.

The exploration of reality is also an exploration into poetry writing, into words as excrescences of things or, vice versa, things as excrescences of words, because it is only in the exchange of word and thing, thing and word that the world exists. Guillén's insistence on the functional role of each linguistic component in the whole of the poem/work echoes Mach's discussion of the mathematical function as the model for the interdependence among sensations.[11] His strategy of interrogation/speculation, so commonly used in his poems, corresponds to the scientific attitude of questioning preconceptions and proposing the need to consider new options; finally, his analogical thinking echoes the "stickiness" that so many modern thinkers, artists, and scientists alike identify in reality as opposed to the monolithic, absolutist Newtonian and Kantian worldview.[12] Working with the 1936 edition of *Cántico*, I propose to study Guillén's approach to reality and language within the larger frame of developments in physics occurring at the time. I choose the 1936 edition because it is the first to include the five sections of the book and because of its proximity to the time period when visual and perception sciences, theories of the electromagnetic field, and relativity had their most probable impact on Guillén's writings. The analogical approach to

this poetry in terms of field theory and sense-impressions avoids the frequently made distinction between the inner and the outer realms, subjectivity and objectivity, the physical and the metaphysical, sensation and abstraction, object and language.

Guillén began to write and publish the poems that would later compose *Cántico* during the 1917–1923 period. Those were the years he spent in Paris where in 1921 he began work as a foreign correspondent for the paper *La Libertad*, writing the weekly column *Desde París* (From Paris). As Sibbald indicates (*Hacia "Cántico"* 14), these years defined a great part of Guillén's European education. Guillén himself credits this period, and the earlier years, 1911–1913, he spent at the *Residencia*, as the time that most contributed to making him a liberal European (see Couffon 12–13).[13] His residence in the French capital and his own studies and work as a foreign correspondent placed him in close contact with the most relevant events of the times in the arts and sciences. In his weekly column Guillén wrote about literary figures and events, but also about Einstein's visit to Paris and "the theory called 'of relativity,' having to do with time and space, stars and with all that is here and beyond the stars" (Sibbald, *Hacia "Cántico"* 250). In his "Portrait of Einstein," Guillén the reporter notices "the irradiation of the presence" in such a genial man and "the direction of a vision that does not focus on any visible object," a regard fleeing from "the cage of determinations that imprisons the seer" (255, 254).

In these comments Guillén calls attention to the nonconventional vision relativity implies as it moves away from what appears to be "reality" to a further level beyond the surface. His writings give testimony of his favoring a worldview based on interdependence among elements rather than atomism: "The subject would be nothing without that network of relations with the object, with objects . . . an 'I' in dialog with reality" (*El argumento* 47). In *El argumento* Guillén gives what could be considered a poetic rendition of the "field" theory in physics when he writes that "the air is with the light a most active background" (58). Instead of single bodies, elements in Guillén's poetry, as in relativity, are always in the process of aspiring to other states in an ongoing exchange of transubstantiation or "conversion." Furthermore, such conversion conveys the perception of a thing or object as a changeable reality since it also involves the observer's subjectivity.

Guillén's approach to reality resembles what thinkers such as Whitehead, Waddington, and Pearson, particularly, define as the scientific attitude, which involves direct observation and constitutes

"the pattern for the creative activity of our age" (Waddington 53). In the scientist's manner, Guillén's poet pays close attention to reality, carefully compiles his observations and how they relate, and, with the aid of his imagination, composes his poems as examples of those combinatory structures in reality. The frequent exclamations in Guillén's poems are like the "Archimedes' eureka" of discovery in scientific experiments and formulas. In their brevity, they encompass, as Pearson says, a wide range of relationships between isolated phenomena while the poet's terse verse, together with its connotative richness, recall the scientific law or formula in which it is possible to grasp "a vast complexity of natural or social phenomena with the least amount of fatigue and effort" (32). Analogical relations and the interrogation mode are Guillén's most common strategies to articulate a worldview that questions any claim of permanence and fixedness. Guillén's poet frees himself from preconceived ideas, above all metaphysical ones, in order to see reality anew and articulate with imagination his own *cántico*. It is not the Space with a capital "s," the ultraphysical, philosophical realm that interests this poet, but the "space where it rains" because it can be known through observation (Sibbald, *Hacia "Cántico"* 70).

As Guillén writes, *Cántico* derives from "that type of *cogito*—intuition, not idea in its origin," adding that "the human animal is able to a certain point to adjust to his environment and that adjustment between eyes and light, between lungs and air, between feet and earth implies such an obvious coordination that oftentimes even the most attentive ones do not perceive it" (*El argumento* 50, 51, 1969 ed.). Guillén is describing "the formidable convergence of Creation," a marvelous work of coordination that because of its perfect simplicity may go unnoticed or be taken for granted (91). It involves an attitude of *arrobo* (rapture), *asombro* (amazement), and *atención* (attention) to remark on this marvelous reality, and the poet is the best suited to carry out this enthralled perception.

In physical terms, "convergence" involves the concentration of a field quantity around a point. It implies simultaneity as these converging centers bring together a high concentration of vibrations and rays resulting in a heightened experience of reality. Matter is radiant in these converging centers, as Guillén himself calls it (101), in the sense of effecting intense sense-impressions in ongoing, open combinations. According to Crookes, the discoverer, radiant matter is a higher form of matter, matter in a fourth state or condition removed from the state of gas. When it strikes against solid matter, radiant matter produces phosphoric action, and when it strikes glass, it makes it

vibrate and become temporarily luminous. While in some cases radiant matter acquires materiality, in others it assumes the character of radiant energy. For Crookes, radiant matter signals a limit or border between the known and the unknown, where the greatest scientific problems will find a solution. In Guillén, the term "radiant matter" is apt to convey a perception of reality that captures the energy of light and life and that approximates the notion of *trasmundo* or depth dimension, in the sense of piercing into what is beyond the surface, nevertheless being on the surface. His poems communicate such a heightened state of energy as though a new limit of knowledge has been reached.[14]

In *Los nombres* (The Names 118–119), Guillén addresses directly the connection between words and reality and proposes his theory of poetic language. It is thus fitting to open the analysis of this poetry with a close examination of this poem. Just as a scientific formula summarizes a multiplicity of facts, the initial word, *Albor* (dawn), encompasses an array of emerging energies interacting to begin the molding of the new day. The perspective on this event is not from a human observer, but from the viewpoint of the horizon in a sort of self-reflexive gesture: the new day looking at its own becoming. The emerging light of the horizon at dawn is "forming" the new day while observing itself doing so, which explains why it sees "nouns." Like the borderland marked by radiant matter, the horizon here, as in other poems, is a boundary demarcating human knowledge; beyond or behind it is, in Mach's terms, the unknowable.[15] The horizon sees nouns inscribed on the patina of things and, just as it illuminates things with the new day, the horizon already sees them conceptualized in words. Perception and conception happen simultaneously, furthermore, perception captures past conceptions. Since the horizon line marks the limit of perception, to look from the perspective of the horizon is to see what has already been stored and conceptualized in the mind (Pearson 38–40, 67–68) or, in other terms, what belongs to a past time that is now reinvigorated with the new day and through the poetic act. At the conceptual level, things are conveyed by signs, by nouns, and that is what the horizon's perception sees.

These nouns—conceptions of past sense-impressions adhering to things such as patina—would undergo or partake of the same "chemical" changes things suffer in time and in space by outside exposure. According to the dictionary definition, patina is a green film that appears upon copper and bronze naturally due to long exposure or by artificial means (as by acids); because of its color, patina is valued aesthetically. Patina also refers to a kind of aura or appearance that comes

with age, habit, or established reputation. By identifying patina with nouns/names, an idea of poetry and art emerges that is mainly kinesthetic. Like patina on an object, nouns create an aura through their own "chemistry," a sort of palimpsest of all the meanings and connotations through space and time. Ruskin, the art critic who called for looking at reality with innocent eyes, wrote in a way that relates to Guillén's view of words as patina on things. In his essay "In Praise of Rust," Ruskin refers to rust as the oxygen that metals need to breathe in from the air. Thanks to rust, these metals "with breath put into them" constitute "circles of vitality" because they contain the ground and all the substances that are essential for life (cit. Carey 111–112). Rust and patina, as analogies for the poetic word, make it possible for the object to breathe, bringing it to life while they, in turn, remain alive through contact with the object. Nouns thus convey ongoing flux, analogical connections, or the fusion of various semantic energies. Things undergo changes through spacetime making their "real" nature a very elusive notion.

Just as Guillén asks, "And the roses?," Gertrude Stein and so many others wondered about the rose, never reaching a conclusive definition. However, Guillén, like his contemporary scientists, does not dwell on absolutes that are beyond what perceptive faculties can grasp. Instead, he focuses on his sense-impressions and on the nouns capturing the uncertain but creative, ongoing transience of reality. *Los nombres* closes with the closing of the horizon/eye. The poet/observer asks, "Is that synonymous with nothingness?" To this he responds, "But nouns remain." Like patina, nouns and language retain the ongoing transformations of things through time and space, chemical processes of sorts that build on the actual thing a semantic aura made of layers of meanings. Nouns are thus centers of radiant energy as they convey the interrelation of different time and spatial dimensions. The observer's consciousness involves the combination of past with immediate sense-impressions in which "raw nature" is never distant.

The meta-poetic nature of *Los nombres* provides a useful understanding of the "chemical" character of Guillén's poetics and the kinesis involved in it. What follows is an analysis of a selected number of poems from the first of the five sections of *Cántico*, as representative examples of: (1) Guillén's perception and construction of reality via sense impressions; and (2) the relational aspect of these sense impressions and the links they suggest with field theory, and radiant matter, as the revelation of reality stemming from the poet's intense perceptive agency, and the knowledge it affords.

Al aire de tu vuelo (To the Air of Your Flight)

Sense-Impressions and the Construction of Reality

Advenimiento (Advent73–74), the opening poem for *Cántico*, marks the advent of the day and of the speaker and his sense-impressions of reality. The religious connotation of the title (as in the advent of the Savior) is superseded by an understanding of "religious" in terms of *re-ligare*, to reconnect with the world instead of with a transcendental reality. The coming of the Savior is certainly an extraordinary event, but so is the daily coming of dawn and the speaker's perception of it. The poet's attentive, courteous perception turns the world into a temple to welcome, precisely, the advent of this new worldview of interconnections of sensations. It is not God that "disposes," but the human hand as a "light god" in its capacity to make, do, and perceive by the touch. Time and seasons may come and go, but stored sense-impressions guard the past and memory can bring them back. As Mach and Pearson assert, time and space are modes of perception. If space "marks the coexistence of perceptions at an epoch of time . . . so time marks the progression of perceptions at a position in space" (Pearson 156, 155).[16] In Guillén's poem, present and past are interconnected for as the poet perceives his surroundings, he reflects on himself, on past time, and on regaining the past through memory: "The one that I was awaits me / under my thoughts."

A similar reversal of the religious to the sphere of the natural world occurs in *Más allá* (Beyond 79–86). Although it is preceded by an epigraph by Saint John of the Cross, the return of the soul to the body in the opening lines reverses the mystical journey in Saint John's poem *Noche oscura* (Dark Night), where the soul begins by leaving the body.[17] In Guillén, the journey occurs in the body and specifically in the eyes: the soul goes straight to its mirror in the eyes, where it encounters the light. This resolute gesture of reversal reflects modernism as the period in which the body becomes the center for an uncertain, perspectival knowledge. Placed in the middle of the stanza and between exclamation marks, the word "Light!" is the eureka that in scientific discoveries signals some kind of revelation.[18] It is also an exclamation filled with biblical overtones from Genesis, but also from the scene of the Annunciation for light penetrates the poet's being as it did Mary. If Mary received the light from above, effecting the fusion of the divine with the human, this poet receives it from the new day to then convert it into poetry. Poetry is thus the stuff of the world, of light, of sense-impressions.

So is the subject: "Reality invents me, / I am its legend. Hail!," exclaims the poet.[19] His "legend" as subject is woven or constituted from impressions of light, color, time, sound, and mass. There is no precedence of subject over sensations, as both self and reality emerge in the middleground of their encounter (Mach, *Analysis of Sensations* 26). Guillén's view of reality as the enmeshing of impressions is also his view of life as a fable or legend, which, as with his friend Salinas, combines the observer and the observed, the thing and the word adhering to it as patina. As light becomes stronger, sense-impressions of weight and gravity give evidence of a field of energies, a temporal and spatial context of heightened experience, a "creation" of the world: "And the morning weighs, / it vibrates on my eyes."

It is quite likely that Guillén was aware of *Vibracionismo* (Vibrationism), an artistic movement associated with Uruguayan painter Rafael Barradas.[20] Deriving from cubism and futurism, *Vibracionismo* captured the modern world through "the prism of scientific advancements and their philosophical repercussions" (Morse 8). The average person was well aware of discoveries in wireless telegraphy, telephone, x-rays, of the role of the Eiffel Tower as a center for transatlantic communications and of the electromagnetic field. Talk of vibrations was in the air. Guillén's poem reveals a view of the world as traversed by vibrations in the form of sound and light waves, by currents of energy flowing through and binding things together (see ibid., 65). In other poems Guillén will refer more specifically to the energy of modern life, particularly in an urban city. In *Más allá* the vibrations the observer feels in his eyes are a retinal response to stimuli, a part of a unifying universal energy that is at the heart of the spiritual significance of this poem as well as of *Vibracionismo.*[21]

The increasingly intense morning light vibrates in the speaker's eyes causing them to see anew the extraordinary nature of reality. He acknowledges the role of his own body in the process. As he lies in bed, light has been gradually increasing and turning the surrounding vagueness into forms. The whiteness of pillow and sheets is compared to a canvas. The increasing intensity of light goes together with gravity and awareness, as masses acquire form; awareness is identified with the law of gravity, which, in turn, manifests the real presence of reality imposing itself. In this poem, the *más allá* (beyond) is the *más acá* (close proximity) that the poet experiences through his sense-impressions: "Beyond! Near at times, / Very near, familiar," or what Lázaro Carreter describes as "its own surroundings or its perceptible distances" (161).[22]

In discussions of field theory from the nineteenth century onward, ether was a central topic, oftentimes in connection with light and as a possible source for matter itself. As Dalrymple Henderson reports in her full account of the importance of ether, in 1904 Lord Balfour addressed the British Association for the Advancement of Science saying that "it seems possible now that it [ether] may be the stuff out of which the universe is wholly built." Already in the 1860s, Lord Kelvin had proposed that "atoms may well be whirling vortex rings in the ether" ("Vibratory Modernism" 129). Carpenter, in *The Art of Creation* (33–34), noted that nature was a great vehicle of messages of light, sound, electricity, and attraction. As science was revealing, waves and vibrations crisscross the air and penetrate everywhere, radiating from objects and carrying meaning and feelings. In Guillén's poem, the poet observer is experiencing that network of waves and vibrations as though it were the totality of space and time, a totality, however, of a provisory nature, "eternity in the air" (18), an inflated instant compiling a multiplicity of sense-impressions. Salvaging the present is what this observer does by compiling the many sense-impressions in a totality of analogical coincidences: "To be, nothing else. It suffices . . . / With the essence in silence / So much identifies." In section III of the poem, the speaker is becoming oriented in space by sensations of length, width, and depth of the objects he touches. That's why he recognizes that objects live to help him. As sensations increase, the speaker experiences the room converging toward him. This convergence, as the concentration of the field energy in one point, is the peak of the wave of Bergson's *élan vital*, its crest in the periodic and undulating movement of "world energy" (*Creative Evolution* 280; also see Hunt 111). Like a central station, the speaker is the meeting place where all lines of force and communication converge. Hence, his exclamation "I am, more. I breathe." Being is increased by the experience of *estar*, of being as situated in space, not in the abstract, and by the actual breathing of air. The experience and awareness of being is directly identified with the physiology of being.

In this wide array of sense-impressions, the poet, like the cubist painter, relishes their mere presence free from any hierarchical principle. Daily, domestic things—balcony, glass window, books, table—are "jubilant matter," "concrete marvels" (21) by which the speaker constitutes his world and himself. Contrariwise, atoms are disappointing because of their divided, unconnected nature (22). An insignificant thing, like the curve of a handle, attracts attention because it gathers a great deal of energy in its form, shape, style, and

possibly color and volume. Likewise, it does not have to be a holiday or a special date; it could be a regular Monday, as it is in the poem, for the Apparition to occur: "Matter perceives / Grace of Apparition: / This is lime, this is wicker" (22). According to Ortega y Gasset, when something in reality "bumps into that other object we call 'conscious subject,' reality responds by appearing to him. Appearing is an objective quality of the real, it is its response to a subject. This response is different depending on the observer's location" ("El sentido histórico de la teoría de Einstein" 236).[23] Also, *apercibir* (as used in the original), besides meaning "to get things ready," "to prepare what is necessary for something," is a Gallicism meaning "to observe" or "to perceive." Guillén was fluent in French and taught at the Sorbonne. It is likely that the verb may be taken to mean both: matter getting ready to make its apparition in the form of cement, wicker, or matter perceiving itself in the grace-filled instant of its Apparition. In either case, the apparition of matter is concomitant with the perceiving act; matter is self-reflexive for it appears to be what perception sees.

This poet experiences his surroundings as a field of interconnected relations and not as autonomous, independent entities. As Hayles explains, from the point of view of the field, reality is in a constant motion due to ongoing, reciprocal interactions, and the observer is a participant in this ongoing dynamism. Hayles uses the metaphor of the "cosmic web" because the "stickiness" of the situation makes it impossible to "extricate the object of our description from the description itself" (*The Cosmic Web* 15, 21). Mach talks about "sensation-complex" instead of a complex of elements because elements are sensations only in their functional dependence; they are also physical objects, particles of mass (16–17). Guillén perceives such self-reflexivity as "Joyous matter in relation" (23). He is so taken by the luster of this matter that he becomes the "kidnapper" hopelessly enamored: "All present-enamors me" (23). The world in relativity is an interconnected whole where conventional dichotomies of space and time, energy and matter, gravity and inertia no longer hold, just as it is not possible to observe from a position distanced from the object of observation (Hayles, *The Cosmic Web* 49).

This poet's fascination with his surroundings and with the wide array of sense-impressions is identified with the glass at the window or balcony in his room. Light hits the glass/crystal and the energy results in a multiplicity of reflections, rays, and vibrations. As in field theory, for which relativity paved the way, there are no privileged points in this experience of heightened energy; the center is anywhere: "My center is this point: / Anyone. So complete!" The speaker's angle of

perspective is just one among many and as significant as any other.[24] Likewise, in cubism, the fragmentation of the object was meant to show the perspectival nature of light for it changes as the angles of vision change. Light became spatial as it constituted the object. Furthermore, the cubist object is not separated from the background, but enmeshed in it: the object is part of the light, a way that the light takes form. So light "creates," "invents" the object. Its various fragments or layers suggest its various formations depending on the angle of vision, of light. Likewise, reality invents this poet, makes him its legend as he, in turn, weaves the fable of reality, a fable because it changes depending on the perspective. Freudian and Lacanian psychologies had a great deal to say about the decentering of the subject in modernity and the anguish it entailed. In Guillén's case, there is no anguish by the loss of any supposedly privileged position, but jubilation to be a participant in the world, creating it through sense-impressions while simultaneously being created.

Crystal, glass, and mirrors are elements commonly associated with the *oculo centrismo* (ocular-centrism) Monegal identifies as characteristic of Modernism (215). For Danius, in turn, vision in modernism is no longer grounded in the sense of sight but in the bodily being of the individual in all its ostensible immediacy. Vision has as its point of departure the immanence of the individual body, "not the Cartesian, noncorporeal and transcendental model of vision" (56). What Danius calls "immanence" is, in other terms, the field view of Guillén's speaker who sees with all the senses. Guillén would agree with Mach that each person is constituted as a conglomerate of sensations and reacts, in turn, to the sensations (*The Analysis* 26). He would, thus, call for a rendition of the ego as an isolated entity.

In this attentive perception of the world, even something as intangible as the air, acquires presence. In *Presencia del aire* (Presence of the Air 89), deictics provide points of orientation in what the speaker perceives: "the happy present."[25] The careful attention to elements that are normally taken for granted (moving clouds, glass in the window, the air, light) reflects an appreciation of life in the tradition of *otium*, that is, the un-rushed focus on the living, intricate network of organisms in our surroundings. The transparent glass in the window filters reality but it almost blends with it providing the most fitting means for analogical interdependence. In this poem it even identifies life, as seen through the glass, with its ideal or conceptual form.

The white on the air, the nakedness of light, are references to the view he is capturing and to his own rendition of it in writing. The absence of visible inscription would suggest the futility of this

writing, which the poet notes in the reference to "nothingness" in the last stanza. However, the white on air is not so much nothingness but the medium linking everything in universal analogy. As light and air blend in the scene outside his window, his poetry writing resorts to analogical strategies to convey a similar blending; semicolons, enjambment, deictics, or the identity interchange in an expression such as *cual si fuera* (as it were).[26] To apprehend "the white in the air" is a prodigious thing, but it is also a provisory achievement. Like the canvas or white page, the air is the backdrop running through everything; one can see it and feel it, but to "see" such a faint inscription as white on it requires a very attentive, penetrating look, or even a look that imagines its presence in order to achieve meaning. White on air conveys a backdrop allowing for all analogical links, life as universal analogy in action where "everything" and "nothing" (last stanza) became mirror images of each other. The clarity of light does not reveal any hidden mystery but simply clarity, light itself, which happens when sense-impressions are free from metaphysical or philosophical connotations and are thus able to perceive life and convey the identity of reality with itself.

White, the sign most faithful to air and light, is the absence of color while containing all colors. Guillén focuses on the "unadulterated" white that, like the noun on the patina of things, adheres to the air/light and absorbs into them. This interdependence, which Mach identifies as the stuff for scientific investigation, is for the poet the stuff of his craft. Poetic signs are provisory, as though they were written with white ink and on air, therefore while a semiotic reading may point to the futility of poetic writing, Guillén, like scientists of his time dealing with imponderables such as wireless telegraphy, x-rays, relativity, and the electromagnetic field, works on relations. Guillén wants his words to be one with light, that is, to be what they say and contain all the radiant energy that constitutes reality. The speaker refers to the light as "shy evidence" because it is evident, but difficult to be perceived as such, precisely because of its evidence.

These poems, and many others in this section of Guillén's book, convey sense-impressions of the expansion of the cosmos, of the vibrations and waves of energy crisscrossing space and time, and of the creative nature of the universe as inherent to light, air, and the sea. Reality is not a solid, static "out there presence," but a realm of imponderable forces interacting simultaneously. Poetry is another one of those imponderables as words stick to things but also change, their identity never being fully fixed and permanent. Guillén wants

his words to be equal to light and the air, the transparent evidence of universal analogy.

The Relational Nature of Sense-Impressions and Field Theory: Radiant Energy and Knowledge

Guillén's focus on the analogical correspondences of sound and color among things is in accordance with field theory and conveys the world as a convergence of sensations where matter is radiant. In capturing the light in all its intensity, the poet seems to reach a new epistemological limit.

Perception's mobility in *Tornasol* (Sunflower 95) is implied in the name itself, a plant that turns with the sun; it also refers to something that changes, as iridescence in colors, cloth, or material. This poem elaborates on the perception of things mixing and transmuting when entering in contact with each other. The instrument reflecting the light and functioning as a sort of prism is the "arbor" turned sunflower. There is also the "green blinds" through which the observer's perception is filtered. The borderline situation of the green blinds connects the inside with the outside; light hits the observer's retina through the interstices of the blind causing the whirlwind effect described in the stanzas. In turn, the poem becomes a sunflower as it reproduces the circular, whirling of reverberations, waves, color, light, and heat of the arbor. The "arbor / sunflower," and the poem conveying it, become convergence centers where multiple sensations interact in curving and rotating motion.

The green of the blinds meets that of the outside arbor so that the two greens become the quality of the color, "greenness," which multiplies with the sunlight in golden markings produced by the color green entering into contact with the sunlight and heat outside. The sort of net or web that results undulates when seen against the light of the trembling summer, a quivering/flickering effect due to the heat in the air. These waves of light resemble the waves in the ocean, transposing perspectives that question Euclidean planar surfaces. In turn the arbor seems to spread in the air and illuminate the tangled and twisted forms of its branches. Lord Kelvin asserted that matter was "neither a solid atom, nor a mass of atoms, but a whirl in a fluid ether" (cit. Bell 116). Helmholtz had previously reached a similar conclusion but instead of "whirls" he spoke of "the vortex ring" as a source of creativity and motion in the ether. In Guillén's poem, the poet's observation is subsumed in the vortex of energy of color, light, air, and heat turning around.

As the title indicates, *Salvación de la primavera* (Salvation of Spring 120–128) is yet another attempt to "kidnap" time and space in their fullness. This nine-section poem begins by referring to spring, a naked, pure body between air and light, perfectly adjusted to its form. Spring is soon identified with a woman and both encompass the conglomeration of sensations that constitute life's fullness. That's why the poet exclaims: "you are!" Being is the notion conveying sensorial plenitude, the state where the world is experienced again as an irresistible fable, a charmed world that brings forth the poet's rapture.[27] Because this woman/spring encompasses the interconnection of all elements into perfect, simple unity, radiant matter, the world regains its original charm. In this reenchanted world, domestic, ordinary objects are seen in the perfection of their elements. Morris Berman's notion of "a participating consciousness" (16) conveys the experience of analogical interconnection that Guillén articulates in his poems. The salvation is granted by the spring or union with the woman, because the sensorial strength of the experience brings forth the world as if it were for the first time. Things appear in the full prodigious reality of their being, not as something magical but as evidence of the certainty of the surrounding splendor of the world.

As in other poems, the glass at the window or balcony in the poet's room works as the surface for the multiple reflections, reverberations, and vibrations in his sensorial perception and poetic recreation. It becomes a double of the poem itself, and calls attention to the act of perception and transformation, rather than to some reality out there that is being copied directly. On the glass, as in the poem, perception and conception, present and passage meet in analogical connection. The attentive and intent perception captures the fullness of the context, which is, in turn, filtered through the woman's flesh and the glass/poem.

In section II the body of this woman/spring demarcates the confines of knowledge because it is the body of poetry itself as the manifestation of the sensorial in verbal form. It is also Love, as another way of referring to this state of analogical interdependence, apotheosis of sensational knowledge that causes reality to appear, revealing the intricate web of elements, the essential constitution of things. That's why the universe feels heavy in the observer's arms ("Weighs, weighs in my arms") because it is not a conceptual or abstract notion, but perceptual evidence with mass, gravity, and energy. Referring to the common practice of contrasting "appearance" with "reality," Mach takes as example a pencil that in the air and in front of our eyes appears straight but when dipped into water is curved. For Mach

nothing justifies declaring one to be reality and the other appearance. In both instances we face facts presenting us with different combinations of the elements, "combinations which in the two cases are differently conditioned" (*The Analysis* 10). Likewise, on the body of spring/woman things make their reality, which corresponds to their apparition at that particular time and conditions. Casalduero refers to the interplay between "volume and plane, between isolation and relation, heaviness and levity" and it is the poet's attention, as Casalduero notes, that endows this body with cosmic proportions (165–166).

This universe of analogical coincidence is the poet's creation in which he is created reciprocally. He senses and acknowledges the weight, present, and presence of this universe, the same way a mother would by holding her baby in her arms. His soul becomes volume in the perception of the world he has created, a world in which the spirit/flesh dichotomy disappears. The union of the lovers, union with spring as the conglomeration of life sensations, is the reversal of metaphysics, a fusion of two into one through the sensation of the flesh: "the flesh expresses more. / We are our expression." Being and word become one in the fullness of perceptual evidence. The verses insist on making clear the "sensational" nature of this union, dwelling on the slow pleasure of hands touching as well as contemplating; sensorial perception occurs through the entire body. The peak of this apotheosis is synonymous with analogy:

> Everything in just one ardor
> becomes equal!
> simultaneous pressures
> lead me
> through circles of rapture!

The sensorial fullness of the experience becomes the curve of the planet gyrating in conjunction with the turnings and curves of love-making, of love being fulfilled. Present and eternity are one and the self becomes inserted in the complex of sensations that Life is. Likewise, language frees itself from unnecessary layers, becoming essential in exclamations, litanies of praises, and pronouns. Poetry as canticle emerges proclaiming the radiance of matter as it reverberates and echoes on all things; language seems to have reached its own limits and is about to burst, culminating in the final verse: "Unique, you, you alone!" The succinctness and terseness of the language conveys an impression that is vast, universal, and rich in content.

The Ultra Thin and the Thickened Present

In the remaining four parts of Guillén's opus, sense-impressions continue to be the main source of knowledge, but the speaker's perceptive agency focuses now on what seems most transient and accidental in reality while containing its essence.

Las horas situadas (Situated Hours), a title taken from a quotation by Fray Luis de León, which precedes it as an epigraph, seems a contradiction since the nature of "hours" is to be in motion rather than situated. If they are so positioned here it is because the poet/observer, like a photographer intent on capturing the fleeting image, pierces his surroundings attempting to grasp what is essentially ungraspable. He calls it "thinness," as when the spring barely manifests itself (*Primavera delgada* [Thin Spring] 133–134), a term that recalls Duchamp's notion of the *infra-mince*, which the French artist particularly applied to his work "The Great Glass." For Duchamp the *infra-mince* refers to some kind of difference or interval between things that in appearance are the same; it is so thin that it cannot be perceived although one senses it is there. For Guillén, the thinness of spring is the interval between its beginnings and its full manifestation. By focusing on such a transient, imperceptible state the poet hopes to situate spring and give it volume, although what results is the opposite for spring resides in some thin, almost ungraspable medium.

As the title indicates, the city in *Ciudad de los estíos* (City of Summers 134–135) seems to be a summer place, another example of "thinness" described here as *ciudad accidental* (accidental city) because it is not a permanent residence. In this setting, a group of ladies is perceived through synecdoche: their scanty silk clothing with the sunlight and under the blue sky suggests "fugitive" angles of their anatomy; the silk is possibly slipping revealing bare parts of the body. The next stanza seems to echo the slippery silk as it focuses on a straight line that seems to be the track of a trolley or train running to its goal. The straight line, in turn, finds an echo in the "crazy geometry" of the city, which the speaker describes as "elemental." "Crazy geometry" seems at first a contradiction in terms. However, on close inspection it refers to the urban vitality where the geometrical design fuses with activity and purpose. These three stanzas have been connected via the slippery silk slipping into the straight line of the train and, finally into the geometric design of the city. Only in the fifth stanza the book of a "bachelor," as in degree and status, suggests the subject of the perceptive agency in the poem, although we do not see him—only his book opened on a random page where the word

"vertex" is written. "Subtle fatality," proclaims the poetic speaker. Is then "vertex" the fatal outcome of the slippery motion in the previous stanzas? Why is it subtle then? And who is this "bachelor"? Did he fail his geometry final and does he have to study during the summer? Does he distract himself from his studies by watching the ladies dressed in scanty silk clothing? Is then the "crazy geometry" describing also the straight shot of the bachelor's desire? The "vertex" in the book would then refer to a culmination that, in view of the previous lines, suggests the climactic peak of the bachelor's pleasure looking at the ladies. This would explain how the afternoon, in stanza six, is a network where all delights run in the same direction toward fulfillment. While the summer city, the scantily dressed ladies, and the bachelor may be "accidental," or, in the bachelor's case, he literally experiences an "accident," the end result is the sun's rays of the setting day converging on the city and revealing its essence as a place of summer pleasures.

In the first version of this poem, the third and last stanza attributed to Euclid the subtle fatality of making the "vertex" the point of convergence for all directions. That Guillén opted to delete that reference in the final version indicates his preference for suggestion over direct expression, for the accidental as being the essential.

As Casalduero has already noted, section III of the book recalls the popular proverb "A bird in the hand is worth a hundred flying," and for González Muela, this section corresponds to the exultation of Poetry—the bird in hand would correspond to the poem (22). Considering that section II focused on the thinness of reality, it is fitting that the poet may want to reach some graspable, tangible reality. In *Los jardines* (The Gardens 161), time is perceived in depth and *posado* (alighted), evoking the cubist approach of making angles appear to be pushing the fragmented object into some further recess in search of its core, a sort of visual take that projects the object in depth. The poem's speaker seems to have reached such core and taken hold of the "bird" in his hand. Acute perception has resulted in a view of the gardens as convergence points of all past, present, and future afternoons. The view in depth cuts through the layers of time to reach to the essence, which is not hidden in some transcendent, distant place, but in the gardens themselves. When the speaker proclaims at the end: "Yes, your childhood, already a fable of fountains," the affirmative "Yes" leaves no doubt. The space/time experience has transformed childhood from some past, dead time period into an ever flowing fable.

El pájaro en la mano (The Bird in the Hand) relates perceptions of depth where life and art reach the core of reality. Although the

achievement may be temporal, the observer relishes the sensation. Space and time are experienced as infinite circles of fullness and immensity (189). In his analysis of Góngora's poetry, Guillén comments repeatedly on its "geometric" nature and on its obscurity, an obscurity that is, paradoxically, clarity. He relates Góngora's *Polyphemus* to Einstein's theory in that both works are obscure while totally pristine: "as clear and precise as the theory of relativity" (*Language* 72). These comments could be easily applied to Guillén's poetry as well. As in both Góngora and Einstein, in Guillén, "The arrow of meaning strikes its mark, but it throws off so many sparks in the process that at times the target is not perceptible at first glance" (74). The clarity of these texts is so pristine that we are blinded by it: the more the transparency, the more the difficulty. Perfection in this poem also refers to poetic achievement, what in his essay on Góngora Guillén describes as "work painstakingly wrought" (69). After exploring the air and space as background for perception in part I, and the fleeting, *ultra-mince* nature of reality in part II, part III enjoys holding the bird in the hand or the perception of life and art. Space and time become a unity thanks to the poet's perceptive agency. It is thus not surprising that knowing Guillén's reliance on perception, he would turn to the here and now to convey the fullness of experience, as he does in section IV.

Entitled *Aquí mismo* (Right Here), section IV refers to the specifics of space and time. "Florida" (199–200) is preceded by an epigraph by Rimbaud where the French poet expresses his amazement at having found by accident the "incredible Floridas," suggestive of an Eden-like world. Like him, Guillén's poet also came across La Florida by chance, and following Rimbaud's call to the poet to be a *voyant* in order to access the unknown, this poet finds in La Florida a radiance where the world opens up and reveals itself in a dimension of depth. This trip is not only physical but poetic, as well, for by writing the poem, he has achieved knowledge. The poem identifies the finding of La Florida with the concentration and convergence of multiplicity into unity or, in other words, on universal analogy, the "Plenary universal essence" in which all things participate. This universal gathering, the "participating consciousness" in Berman's terms, is a summation of desires, of mass, and energy in the full expression of their presence, the intentness of the universe to express itself as "total delight." Florida, where everything is in the full bloom of its essence and potential, is Life in its most exultant expression, the "adorable volume" of concrete, tangible presence.

Stanza four is enclosed in a parenthesis as a sort of aside. It is so because it points to the "nearby" surrounding this converging experience of Life that the poet is describing. The surrounding context is formed by a "bundle of vibrating links" reminiscent of field theory. The world is a round circle bathed by sunlight. While La Florida suggests a utopian place, it has rendered a true experience of presence, of the "real" and "primary" universe of volumes. Faith and hope, chance and destiny, the utopic and the real may and do converge when perception is intent and, as the final lines assert, when need urges.

The section entitled *Pleno ser* (Full Being) suggests that the full perception of life and being has taken place. *El aparecido* (The Ghost 219) is yet another example of Guillén's own approach to metaphysical and philosophical issues, Being in this case. Guillén does not resort to abstractions but instead focuses on the energy of nature as represented in one of its most impressive forms, the sea. He focuses on motion, forms in the process of becoming and undoing, the body immersed with the curves of the waves, and the experience of floating within this immense amniotic fluid. Eternity and being, experienced through the senses, translate into elemental singing, a repetition of syllables that reflect the ecstatic feeling of the experience (as with the word for sea, *mar*, in *Mármara, mar, maramar*). This is the peak of analogical confluence, convergence, and communication. The poet relishes the energy and radiance of the sea in all its evidence, although he calls it *confabulación*, a sort of dubious scheme of prodigious indomitability. There is, thus, an awareness of the constructed nature of this prodigy that the poet has carried out in his writing, although it does not deny its truth because it depends on the agency of perception.

Meseta (Plain 227–228), as the title indicates, refers to the flat landscape of Castile but also to sense-impressions of the landscape growing, rising, and emerging as a fusion of "peak and plain together." As space expands, and peak and flatness seem to fuse, the result is light that is high and manifests itself in vibrations, which maintain the scene in a state of palpitating energy. The poet observer is conveying the impression of the land as a living field traversed by currents of energy. Because of the poet's perception, horizons lose their Euclidean, rectilinear outlook and become circles suggesting other dimensions. To convey the energy of this vision, the poet resorts to the verb *zumbar* (buzz) suggesting the bustling noise of beehives or insects, the sound of life. The exclamation "Ah universal vibration / of peak" conveys this poet's perception of cosmic energy, of the universe as an immense breathing roundness. Guillén articulates here, as

he has done in other poems, what Einstein called the full or inflated present and that he, Guillén, recognized in Gabriel Miró, that is, the "depth of space and time." The cosmic vibration of life combines fullness with transience. Two modes of perception, the horizontality of the *meseta* and the verticality of the peak, space and time, fuse in the grid of this poet's perception.

Guillén's poetry exhibits the ebullience and optimism of the first part of the twentieth century about the universe. Although he disliked technology, and what he called in his correspondence with Salinas *cientifismo* (scientific excessiveness) and excessive method in the approach to literature and the arts, he rejoices in the worldview that the physical sciences were unveiling, a vista of the intricate interconnectedness of aspects of reality that traditional Western sciences and philosophies had maintained as separate. He also rejoices in the immersion of the observer and his observation in the observed world and, contrary to the uncertainty of such nonobjective view, as quantum physics showed, Guillén focuses on the ongoing creativity it implies. There is at times nostalgia for the certainties of an Euclidean, planar world, but it is occasional and soon superseded by a perception of the world as the inflated present and presence of Now, the "thickened" present (Kern 82–85). The intensity of the attentive observation/perception results in the experience of simultaneity where the common denominator is movement. In order to convey a kinesthetic perception, Guillén has to break Euclidean absolutes, rearranging the fragments of visual perception on the basis of their temporal cohesion (see Laporte 246, 253). He describes his words by means of chemical terms, such as patina, to convey their kinesthetic nature. The states of fullness in his poems are never fixed; vibrations and tension are always part of the perception and words and other linguistic strategies aim at capturing the ongoing motion and transformation of life. His positioning vis-à-vis reality resembles the "scientific attitude" in the attention he pays to the most insignificant aspects of reality as much as to those of astronomical dimensions. He perceives the surface but moves beyond to register the cluster of impressions emanating from the thing and to show how their essence, life itself, resides precisely in the interstices of the mechanics forming the thing itself. His task is to create words that reveal to us what is in plain view but we fail to see. Life is not elsewhere for Guillén, but in the concrete thing, in the now; it takes focused, courteous, un-rushed attention to perceive it.

In her analysis of Guillén's early writings, Sibbald notes how the poet adopted the traditions of his Spanish legacy and Western

civilization but discarded the notion of the work of art as "an eternal object which surpasses the contingencies of time, place, and personal creation." The critic notes how in Guillén's early criticism

> there is a growing emphasis on "life" in a generative, creative sense as the source of art. Poetry in the twentieth-century could no longer be seen as some sort of museum-piece: it must adapt and *be*. Guillén's discovery that the poet must confront reality, transitory and immediate, in poetry that reflects "the turning world," is the core of his poetry. ("Portrait of the critic . . ." 443; emphasis in the original)

Guillén's poetic word captures the basic and elementary nature of the thing, and from the thing it moves to the noun. As Ciplijauskaité notes, there is no distance between the "imaginary" and "real" planes in Guillén ("Tensión adverbial" 104–105). Guillén's focus on circular forms to represent perfection points to a view of the physical world in geometric terms as a circle of interconnectivity since sky/sea, air/earth, wind/land are interchangeable. At the same time, his attention on transience, metamorphosis, on the notion of *convertirse* (to become) does not suggest a loss of presence and fullness. Rather, these "intermediary" states suggest ongoing creation, constant renewal, and evolution. As the notion of Brownian motion attests in physics, nothing is static in this poet. The "beyond" does not refer to any transcendental level but to this "becoming" leading reality to reach further and further while deepening into its own substance/self.

In a 1912 letter Marcel Proust wrote: "there is a plane geometry and a geometry of space . . . for me the novel is not only plane psychology but psychology in space and time" (Kern 50). Like Proust, Guillén experiences reality in space and time. In the five sections of *Cántico*, Guillén has created a well-orchestrated "description" of motion toward the light: "light guides" is the closing phrase for the whole book (235). It is not that the light has finished its guiding function, but that it continues to do so. *Cántico* is a monumental manual of the power of sense perceptions to create reality. This poet perceives colors, spaces, and times in their interrelatedness and associated with dispositions of the mind, desires, and emotions. What the poems express is sensations that engraved themselves more fixedly in the mind although, as Mach explains, "absolutely permanent such complexes are not" (*The Analysis* 2). Contrary to the interpretation put forward about his worldview as being ecstatic and fixed, Guillén makes no distinction between the complexes of sensations constituting the body or thing and something else that would be considered

its essential attributes. As Mach states, a body is unchangeable only when details are not considered. It is, however, in the details that Guillén's perception resides. If he chooses to focus on the perfection of noon, he is voluntarily discarding any aspect that may dissolve such perfection because man "is pre-eminently endowed with the power of voluntarily and consciously determining his own point of view" (7). Everything in Guillén is a sensation, not only the colors, textures, and other aspects of things, but also space and time.

The conventional opposition between reality and appearances does not apply to this poet; nor does he favor one at the expense of another for what counts is how the different elements are combined under one's own perception. Guillén's perception does not consider the veracity or falsity of sensations; he focuses on offering an acute, sharp view of them because that's where life and art reside. Guillén could not be further from Plato because the world is not something behind us but all around and in us. It is possible to apply to Guillén what Mach said, that "the world consists only of our sensations. In which case we have knowledge *only* of sensations" (*The Analysis* 12). As the analysis of individual poems has shown, sensations for Guillén are conglomerates of elements so that there is no distance between bodies and sensations, between what is inside and out. As different elements merge in sensation, knowledge reveals its analogical foundation. This explains the absence of mystery in Guillén's world because what he sets out to investigate are the colors, textures, space, time, and shape of elements and how their interrelatedness produces sensations that reveal the world.

Chapter 3

Confluence, Field Theory, and Juan Larrea's *Versión Celeste*

In the entry for March 6, 1932, in *Orbe* (Orb), a sort of intellectual diary that Juan Larrea kept from 1926 to 1932, the poet wrote: "The concept that the two conflicting elements, the personal element and the social element, which I have found in me, fuse forming a new and invulnerable individuality in relation with the partial force of other individualities, presents evidently an essential point of contact with the atomic theory" (128–129). At the time of this writing Larrea was reading an article on atomic disintegration in *Lu*, a French journal. The combination of positive and negative electric charges in the internal constitution of the atom presented to Larrea a helpful analogy for his own search for the essential in self and art. This is one among many instances in this author's prose and poetic works where an analogy with science illustrates his personal and artistic search.

Orbe records a six-year painful crisis, prefigured as early as 1919, when Larrea experienced a disintegration of the self that he compared with the atom-smashing experiments taking place around the same time. A believer in the reality of confluence, Larrea saw a symbolical meaning in the coincidence of his personal experience with scientific advances and the significance it could have for understanding life: "I consider this a very significant point [the point of contact with the atomic theory mentioned earlier] . . . And possibly filled with meaning from which to draw out the logical consequences that will lead us to discover the laws that rule life" (129–130). Throughout his writings, Larrea resorts to scientific notions that were discussed at the time in newspapers, magazines, and informally as analogical

correlatives to his search for enlightenment about life and art. Like most artists, Larrea rejected a materialistic and positivistic understanding of sciences, but he recognized the depth and scope of many concepts in modern physics, such as relativity, the fourth dimension, and the notion of the electromagnetic field, and he perceived their relevance for existential and artistic issues.

This chapter accepts Larrea's invitation to explore the analogical correlation between physical sciences and existential and artistic concerns. Under the heading of confluence/convergence, which plays a central role in Larrea's work, it studies a selection of his poems in analogical rapport with the notions of the fourth dimension, the principle of complementarity, and the electromagnetic field. Confluence affects what Larrea calls "vital entity," a nonobjective entity because it is dependent on the measurement system or observation being applied (*Orbe* 229–230). This explains Larrea's reference to *Orbe* as "pure relativity" because it was the product neither of author nor of the world, but of their relation to each other, of subject and object. Writing, in turn, does not derive exclusively from the point of view of the "I," but from the multiplicity of the whole in which the "I" is immersed (180–181).

* * *

The compilation entitled *Versión celeste* (Celestial Version 1989 ed.) includes poems written between 1919 and 1932 and is closely related to *Orbe*. Both could be considered as the poetic and prose explorations, respectively, of a set of notions that Larrea was busy examining at the time. Laemmel-Serrano refers to *Orbe* and *Versión celeste* as solidary books since one constitutes a version of the other (6). For that reason, the analysis of poems in this chapter is organized around main points or themes in the poet's search rather than around chronology. Although the form and tone may vary in time, poems preceding Larrea's personal crisis offer early signs of concerns that the poet develops in later compositions.

For Miguel Nieto, *Versión* is a book "undated, which, as such, it was never due to an impulse or will to compose, and which resulted as a decanting from those poems which more faithfully witnessed an intense and difficult search for fundamental truths of the spirit, maintained during twelve long years" (12). Most poems are written in French, a language that seemed to Larrea to be better suited than Spanish to express his experiences. The book conveys a process of personal transformation centered on the search for another level of

reality, a beyond identified as light, the star, the SHE, where the enigma of the cosmos and the self would become transparent. The search is thus cosmic as well as personal, for the universe, like the individual, moves toward achieving transparency of knowledge and understanding.[1] Nieto associates the title, *Versión celeste*, with "celestial level," an expression that Larrea uses repeatedly in *Orbe* and in his correspondence with Gerardo Diego; it designates "the manner or place where the life of the spirit is affirmed" (41). The "celestial" would thus be the realm of the authentic and "version," according to Larrea, may be understood in two ways: as a translation or "celestial manner of understanding reality," and in the sense of turn ("version" in the Latin sense of *versum*), "the turn or rotation of the sky upon itself in a change of position toward human beings in our days of universality" (cit. Nieto 41). Larrea's book articulates a search where the personal, the artistic, and the cosmic are connected.

This connection was made clear by Larrea himself in the 1978 symposium René de Costa organized in Chicago (Bernal and Díaz de Guereñu, *Gerardo Diego y la vanguardia hispánica* 13). On that occasion Larrea recounted his reaction when he first read Huidobro's line *La luna suena como un reloj* (The Moon Sounds Like a Clock). He experienced "something like a poetic trauma" because he felt "that the universe, with its infinite possibilities, had been introduced into my head"; since that day his "attitude vis-à-vis poetic activity, although stammering, became different" (cit. Nieto 18–20). The analogy in Huidobro's line connects two realms that are normally distanced, the moon and a mechanical device, the clock. By making the moon sound like a clock, a celestial body partakes of the realm of mechanics and of technological progress while the clock acquires features associated with imagination or cosmic time. The result is the confluence of realms that Larrea refers to as "another type of existence" devoid of the conventional understanding of time and space. It could thus be said that Larrea's "celestial version" aims to recreate the epiphany-like experience he had upon hearing Huidobro's line, by provoking the confluence of planes or levels that are conventionally distanced from one another in order to access a new reality.

The article on the disintegration of the atom that Larrea was reading in the magazine *Lu* mentions two physicists, John Cockcroft (1897–1967) and Ernest Walton (1903–1995), whose names the author includes in his diary entry for that day. These two English physicists carried out their experiments with the atom in the 1930s and are responsible for developing the first particle accelerator in order to study how particles collided. By 1910, however, Ernest

Rutherford and his collaborators had already bombarded the atom with heavier particles in order to study its constitution. Rutherford was able to determine that the atom had a nucleus of positive electric charge with electrons of a negative charge circling around it. He later indicated that the nucleus was composed of massive particles called "protons," each of which carried an equal and opposite charge to the electron, and proposed the existence of neutrons, hypothetical particles of similar mass to the proton but without electric charge. In 1913, when describing the constitution of a hydrogen atom, Bohr added to Rutherford's model the idea that energy comes in packets called quanta; the existence of neutrons was established by James Chadwick in 1932. The study of elementary particles was the most fundamental focus for physicists in the 1920s and continues to attract the attention not only of individuals, but of whole teams of scientists (see Barrow 171–172).

Larrea was intensely involved in his own search for the truth about Life and art during those years and later on. His exposure to, and awareness of scientific developments during the 1920s and early 1930s clearly affected his reflections on art and life. This confluence continues in his later writings, from which I will eventually quote in the following pages, making use of the fact that time and further scientific advances gave him and us a broader understanding. Thus, in his 1954 "An Open Letter to Jacques Lipchitz," he refers again to the smashing of the atom as an analogy for the dissociative enterprise in Huidobro's and Lipchitz's artistic pursuits. He recognized the need "to disassemble forms . . . to force them to give up their intimate secrets," for "just as physics is exploring the secrets of the atom, so the literary and plastic arts have decomposed the esthetic species in order to rearrange their materials in all sorts of new combinations and positions" (258). It was expected that the dismantling or disintegration would reveal "a more intrinsic, recondite and truly essential current of light" where Life and enlightenment reside. The core of the atom would be the analogue for the essence that, in turn, Larrea identified as cosmic energy and Light. In his *Presupuesto vital* (Vital Budget, 1926), Larrea identified that essential level with cosmic energy (*Versión* 350). Energy, in other words, Light, is the connector linking all levels of reality. Cosmic energy and passion, identified in *Presupuesto*, refer also to the sacrifice, or dismantling of the self, that the poet in a Christ-like fashion undergoes to reach the fullness of life.

Not everything in sciences was positively viewed by Larrea, as Gurney and other Larrea scholars have reiterated. When sciences only respond to a mechanical positivistic impulse, Larrea as other poets

rejects them, as he makes clear in his "Open Letter" (256). Such positivistic approach could not satisfy the in-depth knowledge he was seeking as a way to reveal the essence of Life. Sciences, in turn, were already departing quite drastically from claims of absolute and a priori knowledge, and since the nineteenth century, scientific activity had known a radical change from the positivistic Newtonian view of the world as a clockwork mechanism. Scientists were exploring new hypotheses through imaginative constructs that later on Einstein would call *gedanken experiments* or thought experiments. It was French mathematician Henri Poincaré (1854–1912) who in the field of culture of the first decade of the twentieth century in Paris embodied the most influential scientific notions at that time. He defended the importance and necessity of hypothesis in science, introduced the notion of relativity, and popularized non-Euclidean geometries and the fourth dimension. His work on space and sensations had a noticeable impact on the work of some artists, such as cubists Metzinger and Gleizes. Furthermore, the link between science and the arts responds to a field of culture where a priori notions, causality, and a mechanistic worldview were being reevaluated. Preceding Einstein's theory of relativity, the important role played by the fourth dimension, theories on the ether, perception, and non-Euclidean geometries are proof of the very radical change occurring in the mindset of the culture in the period. In his "Open Letter" (170), Larrea joins the arts and the sciences in their important role as psychological witnesses (256), crediting both epistemological realms with equal responsibility in the development and manifestation of the essential core of reality.

Larrea's writings provide ample evidence of his involvement in the culture of his time, in arts and letters as well as in political events and recent scientific advances. He was also a close friend of artists who, like Liptchiz and Juan Gris, were involved in reading science books and were sensitive to the discoveries in the field. His statements are often in tune with those of contemporary scientists. For example, in *The Foundations of Science*, Poincaré declares the need and legitimacy of hypothesis in sciences for even if is proven wrong, a hypothesis opens up the door for new discoveries (28). There is no real loss if the hypothesis fails for it has furthered a process of discovery that points to the existence of something that until then was extraordinary and unexpected (134). Larrea shares Poincaré's enthusiasm for the hypothesis, as he writes in the May 15, 1932, entry in *Orbe*:

> The hypothesis enters the scientific mechanism as a *sine qua non* instrument of its development…life evolves as though through

> successive hypotheses. Every religious, political, social, etcetera system which carries in itself a support of the past, an intimate obedience to the present with . . . a tendency to the future, behaves actually like a hypothesis. (117)

Hypothesizing could be the way to maneuver with conventional knowledge in order to achieve the clarity of sciences: "It is necessary to substitute the *a priori* system with the fertile work of hypothesis and the flexible conformity with optimistic dynamism" (*Versión* 353).

In *Veredicto* (Verdict), Larrea laments that poetic thought, even when attempting to be objective, lacks the experiments that sciences use to prove their theories (11, 26). Taking the theory of relativity as an example, Larrea admits that even though such theory deals with the immensity of space and time, it still has the means to prove itself through experimentation. As Eddington illustrated, the example of the 1919 eclipse proved Einstein's theory about the curvature of the light; a statement of a metaphysical or psychical nature lacks this kind of verification. For this reason Larrea explains how in his book *Rendición de Espíritu* (Surrender of the Spirit) it was important to emphasize the evidence that comes from a confluence of different epistemological realms (27).

Larrea admired the structure of the atom, of molecules, and microorganisms because they proved the existence of a cohesive order at the base of life and the universe. Throughout *Orbe*, and in his *Presupuesto vital*, Larrea comments on the value of those systems as models of the sort of organic integration he seeks for the self. He went as far as to believe that salvation resides on the "ordered concurrence of so many microorganisms" (*Orbe* 54). The same belief extends to his poetic activity. In an interview with Gurney, July 11, 1972, Larrea said that in poetry he went "to the essential, to the Verb," adding that poetry prepared him "to look for rapports among things." Gurney states how during the 1921–1924 period, Larrea really worked with language, going inside the words and their meanings. In and through the interlacing of images, Larrea felt the presence of the Spirit, of Life (*La poesía* 290, 296).

Larrea extended this belief to the political and historical planes. Nationalisms had to be surpassed and subsumed within an international level where their differences would remain and a larger, more cohesive unity would emerge. In this Larrea concurs with Einstein himself whose repudiation of nationalisms, and desire for a world authority with the right to solve disputes and the military authority to

implement its decisions, has been fully documented.[2] Larrea even proposed a plural approach to knowledge, an interdisciplinarity, which he found exemplified in the international identity of the scientific community (*Orbe* 129). The interconnection of molecular, atomic, and micro-organic systems was echoed in electromagnetic theories where in the first half of the nineteenth century Michael Faraday developed the notion of lines of force crossing space. Probably influenced by his deep faith in the Sandemanina Church with its literal reading of the Bible, Faraday believed that the visual lines of force traced by his magnets and coils were real. These forces were created by moving electric or magnetic charges and constituted a magnetic field (Barrow 94–95, 91). Contrary to Newton's view that forces acted at a distance, Faraday's investigations proved that "electric and magnetic forces depended upon the pattern of the field lines, and these lines were everywhere."

The field concept is the best means to explain the deep connection between electricity and magnetism that was established by Scottish physicist James Clerk Maxwell in 1865. Maxwell developed four equations encapsulating the symbiotic relationship of the electric and magnetic fields, which became known as the electromagnetic field. Some of these equations describe the propagation of waves of the electromagnetic force field, which, as Maxwell concluded, were a form of light because light was also known to exhibit the behavior characteristic of a wave phenomenon. What this meant was that unseen forms of light must exist with a wavelength different from that of the visible region of the spectrum. Maxwell's prediction was confirmed by Hertz who in 1887 discovered the existence of radio waves having a wavelength nearly a billion times longer than that of the waves of visible light. Later, the entire spectrum of electromagnetic radiation was uncovered. The electromagnetic field not only explains action at a distance, but it exists as an entity in its own right (Barrow 92, 94). The view of the world as a realm of interconnecting forces was shared by other areas of knowledge including cubism and literature.

Hayles's analysis of "field concept" draws from different models of isomorphic features characteristic of twentieth-century thought, in general. A "field concept" implies that all events, including subject and object, are interconnected and thus self-referential. All elements in the field connect so that everything refers to everything else: every statement refers to every other statement including itself. A major feature in modern physics—marking its departure from classical science—is the very different understanding it has developed of the relation between the observer and the observed system (Hayles, *The Cosmic Web* 9–10,

41), which Larrea also explores in his writings. Larrea spoke of the "organic mutual influence" (*Orbe* 64) of all components in the universe. As this analysis will reveal, Larrea dislodges the Cartesian duality between subject and object, *res extensa* and *res cogitans*; denounces an approach to knowledge that is only based on reason and logical analysis; and calls for imagination and the interconnection between intelligence and sensibility. As in modern physics, he insists on the organic and mutual influence of all elements, which is achieved by surrendering control (Hayles 17).

Larrea's image for this state of affairs is the "universal kaleidoscope" (*Orbe* 63) since only a multiplicity of perspectives is capable of providing a better informed view of the self and the universe. The self-referential character of the field sets challenges for sequencing and causality, contributing to the complexity of this worldview and its expression in the arts. Larrea's poems are considered surrealistic, which they are to a great extent; they are also fields of linguistic forces that connect by nonlogical, nonlineal means. The apparent irrationality of his images and of his language stems, in general, form the impression that the parts are not connected causally. His is a language that conveys a multidirectional interaction among its parts, a sort of kaleidoscopic multiperspectivism whose meaning shifts as the angle of approach changes. Larrea's rejection of absolutism and a priori notions is part of the then accepted belief in the relativism of perception and knowledge. While intelligence and sensitivity may take us in opposite directions and to contradictory views, Larrea does not favor one over the other but a fusion of both in which the identity of each is preserved. Above all, he defends the multiplicity of viewpoints because it is from heterogeneity that the convergence and confluence of knowledge will occur. From his support for hypothesizing and for the multiplicity of viewpoints, and his rejection of an inquiring approach that favors only reason and logic, Larrea aligns himself with the scientific method of disintegrating the atom in order to pry further into its structure. Hypothesizing and multiperspectivism open up new ways of looking at things and contribute to the destabilization of conventional beliefs, just as the disintegration of the atom takes apart the apparent solidity of matter in order to reach further into its constitution. This approach to knowledge and reality could not find room in the Newtonian world of absolutes.

The following analysis of Larrea's poetic texts will begin by focusing on the "evasion" of which the poet writes in the opening poem of *Versión*, and which marks his whole epistemological and poetic enterprise, evasion or turning away from conventional views toward a

beyond or boundary identified as the SHE or the star. This reading will connect Larrea's evasion with theories of the fourth dimension. His nondualistic view of knowledge and reality is revealed by relating his poems to theories of complementarity. To conclude, the analysis will focus on Larrea's notion of the universal kaleidoscope as it relates to poetic self-reflexivity and field theory.

The SHE and the Fourth Dimension

Throughout his writings Larrea expresses his firm belief in the need to disintegrate knowledge, to split apart the blocks of traditional beliefs so that a new confluence or epistemological spark may occur. As he writes in "Cuzco," a section of his diary *Orbe*:

> Once light is reached, and the maturity of all races, the correctness of thought, the psychic forces, the conductivity of peoples will flow together in a single moment of time, there will come a spark that with a blow will set fire to humanity. The spark, which may consist of a scientific discovery, the discovery of a planet, something palpable, will convince us all. (23)

In poetry, the route to achieving convergence and the spark of deeper vision lay in unexpected word combinations and sounds, their interconnections, and the disposition of verse lines and stanzas. Larrea's poems are challenging because of the apparent illogic of the images and word combinations and because of the disposition of lines on the page. Particularly in his earlier compositions, Larrea resorts to some avant-garde typography, which calls for a visual reading in addition to what the images may involve in meaning. These formal devices are material paths in the search for some higher knowledge, some other dimension of reality where the enlightenment that these poems articulate would occur.

Early in the twentieth century, before Einstein's relativity and Minkowski's 1908 articulation of the fourth dimension as time, the fourth dimension was perceived as a realm of possibilities and super-consciousness. C. H. Hinton, a true proponent of hyperspace, explained that the average person would resist believing in higher dimensions for the same reasons the prisoners in Plato's cave could not conceive of anything beyond the shadows on the wall in front of them. Just as those prisoners identify with the shadows on the wall and thus think of themselves as two-dimensional beings, Hinton explained that we, in turn, are also thinking of ourselves as being

less than what we really are because we do not conceive the possibility of a fourth dimension. For Hinton, a fourth dimension is where Plato's world of ideas reside ("The Fourth Dimension" 229). These until then unconceivable spatial possibilities added to the fascination for other dimensions that so many artists felt at the time, Larrea included. In his 1943 *Rendición de espíritu* (II 215), Larrea explains how the mental image of the world has gained in dimensions. From the Renaissance on, the flat, two-dimensional view of the world in medieval times has become the round, three-dimensional orb while in the present times the view becomes even more complex with the fourth dimension. For Larrea, the fourth dimension is the poetic, divine one. As he recounts it in *Veredicto* (44), when he visited Chartres, he experienced a number of unusual coincidences that led him to wonder if they might have been suggestions of another dimension "in the order of the cosmic consciousness of a universal Reality." In "An Open Letter to Jacques Lipchitz," he discusses the real and effective presence of a new dimension (189).

At a literal level, Larrea was looking for a place beyond the constraining personal, social, and artistic situation he was living in Spain. As Gurney notes (*La poesía* 92–94), like other artists (e.g., Rimbaud or Gauguin), Larrea's search for a beyond took him to distant geographical areas (the Finisterre in Galicia and Bretagne) and, most especially to Machu Picchu in 1930. The search acquired a more metaphysical meaning as the sense of emptiness in his life grew. Starting as a personal quest, it became a transcending move he envisioned for the world. According to Gurney, the I and SHE in Larrea's poetry refer to "the central tension in *Versión celeste*, the poet's movement from existence to essence, from darkness to light, from the ego to a consciousness of Creative Reality. 'I' will unite with 'SHE'" (*La poesía* 123). When asked about the identity of the SHE in his poetry, Larrea answered that SHE was: "Life and also, my essential Beloved, the idealized woman, my aunt, all women, the other women" (57); his aunt refers to Micaela Larrea to whom he was close but was separated as a child. In 1972, in one of the interviews with Gurney, Larrea identified the SHE with "a universal consciousness" that he said he reached in 1932, when he came out of the crisis that *Orbe* records in entries lasting from 1926 until 1932 (279). He described it as "a sensation or an awareness of being outside of time and space, not physically—It is not about physical reality—but mentally." He proposed the possibility "that human mentality can place itself outside of time and space . . . like a fourth dimension" (cit. 280). Although these comments were made in the 1970s, it is interesting to see that the

fourth dimension is the reference he chooses to describe the state he was seeking earlier in his life.

The popularity of the fourth dimension among artists in the early part of the twentieth century was often mixed with less than scientific notions. Dalrymple Henderson provides a good account of the way artists such as Kupka, Kandinsky, and Mondrian, among others, considered the fourth dimension as part of their theosophical beliefs (*Fourth Dimension* 32–33). Madame Blavatsky's *Isis Unveiled* (1888) identifies modern ether with "astral" light (xxv), which in Theosophy "permeates the whole cosmos, lurking in its latent state even in the minutest particle of rock," and its existence is demonstrated "by the phenomenon of the spark from flint and from every other stone" (xxvi). Blavatsky's views on astral light/ether resonate in Larrea's own vision about the work of art as a power capable of unchaining "the multiple vibration of the inflamed" (*Versión* 352). Larrea also shares with Blavatsky his view of life as the equilibrium resulting from two opposing forces eternally reacting upon each other, an aspect of his work discussed later in this chapter (ibid.). Furthermore, Larrea believed in the role of the poet as prophet and clairvoyant. Throughout his life he was the poet/traveler directing his journey toward the enlightenment or revelation of the Spirit through his writings (see *Orbe* 97).

The 1929 publication of A. Rolland de Renéville's book, *Rimbaud le voyant* (Rimbaud the Seer) responds to a general interest in the supra-sensible aspect of the fourth dimension and the ether. Larrea read the book and although he would later deny the truth of Rimbaud's clairvoyance, Rimbaud's *Lettre du voyant* (The Seer's Letter), published in the book, had a great impact on him. In *Veredicto* Larrea remembers how on the evening of May 13, 1929, he had the evidence that his life "had meaning." This discovery coincides in time with the reading of Renéville's book in May–June of 1929. Bary notes how, as an archivist, and waiting for things to be resolved with his aunt's estate, Larrea was reading on parapsychology with the help of the *Traité de metapsyquique* (Treatise on Meta-Psychology) by Dr. Richet (Paris: Librairie Félix Alcan, 1922), which was a very extensive summary of the scientific knowledge at the time (*Poesía y transfiguración* 62; Gurney, "Larrea y la poesía francesa" 25). In the case of chance, Larrea was interested not because he believed in it, but because such phenomenon demonstrated our ignorance of the principles guiding it. He was also interested in Jung's synchronicity for it revealed connections between things and events other than causal. Defined by Jung "as a psychically conditioned relativity of space and time" (19),

synchronicity offered a model for Larrea's belief in the elastic nature of space and time, especially in the psyche.[3]

Discontent with the constraints of society and the mechanistic worldview imposed by the traditional discourses of positivism, religion, philosophy, and art prompted artists and scientists to seek new realms where temporal linearity and spatial limitations could be overcome so that it would be possible to experience simultaneity and the fullness of presence. Thanks mostly to technological advances, such as cars, trains, and wireless telephony and telegraphy, events taking place in different places and at different times could appear synchronous; things, in turn, were approached from different angles and not only in accordance with Euclidean parameters; artists were attempting to provide an integrated view of the world. Larrea, as his writings show, was well aware of the fourth dimension and referred to it to describe what he meant by the "beyond" or the SHE. To access such an unconventional realm requires a drastic break from conventional ways, as *Evasión* (Evasion), the initial poem of *Versión* (67), states.

The poem opens with a striking image that has been compared to the slicing of the eye in Buñuel's and Dalí's film *An Andalusian Dog*: "I just pulled the solar Cyclops out of its orbit."[4] The rule of the sun, or the ways of Western thought, is taken out of its orbit, a gesture that amounts to a revolution of Copernican proportions. The cyclopean vision of the sun refers to its mono-dimensional value, which the poet, in search of the "kaleidoscopic" nature of the universe, finds confining.[5] The rejection of monocular vision responds to the central role of eyes and optics in the sciences and arts of this period. The abandonment of Renaissance perspective in cubism led to a multiperspective approach to the object, which philosophers such as Ortega y Gasset claimed as a sign of modernity. That's why the means of transportation for the poet in this poetic "evasion" are the clouds that change shape constantly and never remain in the same location. As locomotion for the creative journey of the imagination, the clouds will expose the poet to a multiplicity of changing perspectives, none of which will be inscribed permanently. The poet will be exposed to views that move relative to the surroundings.

The "beyond" for this poet's journey is described as "rebellious" vis-à-vis the Cyclops's solar authority; it is a realm filled with diverse and kaleidoscopic rumors, viewpoints, and sounds of waves containing and transporting the energy of the cosmos. As filled with "rumors," the beyond seems to be in a sort of Brownian motion exemplifying the dynamism and diversity of life.[6] It is also luminous and surpassing the gloom of romanticism and symbolism. Toward the end of the

poem, the beyond is closely associated with the notion of "Finisterre," the end of the earth, and with the "solitude of the abyss" because of the risk involved in trying to surpass the conventional parameters of space and time.

Commenting on this poem, Larrea recalls the month of May 1919, when he first heard about Huidobro and ultraism in Bilbao. As a result, he says, "it emerged in me, electrified, a small poem which was published two months later." He explains that the Finisterre in the poem represents an "ultra" "beyond the Ibsenian 'I myself' so in style." Surpassing the here and now, the beyond involves leaving behind the particularity of the individual self in order to fuse with the universal self. The Ibsenian Peer Gynt is abandoned because he is only concerned with his own self while the poet seeks to fly away from individual confines (Díaz de Guereñu 65).[7] Larrea's Finisterre, as well as the juncture between hemispheres that he discusses in "A Tooth for a Tooth IV" (152)—"Between the junctures of the hemispheres an adventurous space begins to sprout"—suggests a space emerging from the coming together of two bodies. This is the space that Larrea identifies as the "beyond," an adventurous space because it is enterprising, because all that seemed evident until then falls apart, and because everything that was, no longer is. When Larrea looked at this early poem many years later, he realized how closely his life had adjusted to the itinerary that the poem had outlined merely in metaphoric terms.

The prose section *Cavidad verbal* (Verbal Cavity) identifies language as the culprit for the failure of the search (*A Tooth for a Tooth* 60–63). As a game of reflections, instead of getting us closer to enlightenment, language distances us from it. This verbal cavity is thus reminiscent of Plato's cave for it gives us reflections of the world, but not the world itself. The wall where the reflections appear is made of glass and it separates the speaker from other people. When it appears misty, the suggestion is that the reflecting surface of language is not altogether transparent: the materiality of words gets in the way so that word and object are not fully identical. As the poet realizes this feature of the glass wall, he wishes to write his name on it in a gesture of self-assertion. But, as he acknowledges, writing his name is synonymous with death because, like the painter entering into his canvas and locking himself inside, he dies at the hands of art that, attempting to be realistic, ends up killing its subject. He then writes another name, not his, hoping to distance himself from the writing. But then he hears a creak as though something, like a machine, was breaking or starting, which suggests that the process

of creation is beginning. The letters of the name he has just written become a sort of screen through which the poet sees a man who is curiously looking at everything, a man whom he finally identifies as his own self, although he had never seen him before. There is, thus, in the writing process a revelation of the self or self-knowledge. He is seeing his own reflection or image and knows that in that reflection is where the SHE is. The SHE/LIGHT, center of meaning, the beyond of enlightenment, is found there, on the screen of language where the poet projects himself. He thus realizes that SHE is not in an "elsewhere" but in his own being, although, like Narcissus, he can't reach the beyond because the image of himself is a usurpation of his own being: he is it and not it, which makes him feel unfinished, like a box without the lid. And when he tries to step back and look at it from a distance, he finds a proliferation of images, letters, and words without apparent cohesiveness, possibly the effect caused by movements of the glass wall, as on the surface of water. No meaning can stem from the loose letters, "detached from all will and without meaning" (159). The split between subject and verbal form in *Yo "va" a separarse* (I *is* going to split) refers to the split of the "I" and the image on the glass wall of language.

Locura de la danza (Dance Madness 130–131) is suggestive of the dance of love- and poetry-making and is identified with the SHE. As the dance of creation takes place, past memories begin to loosen their hold proclaiming the simultaneity of the present. In the house of art or the cosmos, the SHE/dance, reminiscent of the Futurist antipast stance, frees in her gait the statues where history wants to fixate life. The reference to her skin suggests images of change (changing skin) that would be implied in her continuous motion while dancing. Her ongoing curves and moves have the effect of producing *pelusa* (fuzz) coming out from the poet's soul and in between his legs, as emanation of a spiritual and erotic nature, the poem itself, which he creates as a response to the dance, and which he deposits in her navel, the erotic, creative, cosmic center in ever going motion. This dance ultimately becomes a representation of the cosmic dance where the center never holds.[8]

In these poems, the SHE/beyond appears as a realm of multiple perspectives and clairvoyance to which the poet aspires. As with atomic disintegration, the SHE requires the crashing of old traditions and constraining individualism. It is through self-awareness that the heightened state of consciousness that the SHE represents will come about. Such experience has to do with the linkage between the seer and the seen, the poet and the world. Sometimes the poet admits the

impossibility of penetrating the SHE because language, as in Plato's cave, is a house of mirrors and reflections where any essence gets diluted. Other times, however, the experience of the SHE/beyond becomes malleable and as with the fourth dimension, curves and blends under the poet's gaze and hands. This is when the poet plays with words beyond their conventional meaning, mixing and combining registers in unexpected ways. Through these combinations, the poet glimpses into the beyond, a state of awareness also called expansion, as in the cosmos. Larrea opts for hypothesizing, in spite of the risk of falling into the incomprehensible and leaving behind absolutism in favor of provisionary but enriching meanings and experiences. This is when language is stretched to its limits, risking intelligibility but also exploring alternative ways of saying and seeing.

In Search of Complementarity

In *Orbe*'s entry corresponding to March 27, 1932, Larrea wrote: "Throughout these years of crisis, after reaching to the bottom of the dark disintegration, I…saw how…the 'I' of man was a total existence, complex and participating consciously and unconsciously in that multiplicity, in which the entire past of humankind and the present of cosmic matter participated" (98). Larrea identifies the past of humankind with the present of cosmic matter, or human history with the history of the physical world. And later in his life, in a letter to Vivanco, dated March 31, 1970 (cit. Yagüe López, note 13, 64), Larrea refers to a

> Poetic-cosmic order against which the objective hazards of surrealism and Jung's synchronicity are, as individualists, elementary glimpses. On that reality a new anthropological revolution is going to be founded of which *Versión celeste*, with its obligatory self-disintegration, was a dark prelude.

These quotations reveal Larrea's conception of the multiplicity of life and the cosmos as the basis for the apparent unity, just as individual self-disintegration precedes and implies unification. The unity/multiplicity pair is one of the many pairs of opposites that Larrea explores in his writings. Sciences were also dealing with dualisms whose relationship defied traditional models of reason and logic: the dual nature of light as wave and particle is one example, while quantum mechanics was revealing the impossibility of measuring simultaneously both the position and momentum, not because of lack of means, but because

it was so intrinsic to the constitution of nature that when measuring one, the other was affected. As a way to discuss these pairs, one of the founders of quantum mechanics, Niels Bohr (1885–1962), came up with the expression "complementary pairs." Bohr considered the two aspects, the particle and wave possibilities, as two complementary descriptions of the same reality. Light was neither a wave nor a particle but was both, a particle and a wave.

A central dualism confronting Larrea's writing is that of intelligence and sensibility, a pair whose elements have been traditionally placed at opposite ends and articulated also as reason/emotion, spirit/body, disintegration/unity, self/reality, subject/object, inside/outside, and even as sciences and art. In his *Presupuesto vital* Larrea writes about the attraction/repulsion between intelligence and sensibility and calls for the need to "hold on to the scientific spirit" so that both help each other and thus grow. Larrea's appeal for a "complementary" pair, a proposal for a balanced exchange in these "halves of the artistic thorax" (*Versión* 352), echoes Bohr's complementary principle as the poet wants both poles to be active at the same time. Bohr's collaborator, Werner Heisenberg (1901–1976), expressed the same sentiment as follows: "The common division of the world into subject and object, inner world and outer world, body and soul is no longer adequate" (cit. Davies, *God and the New Physics* 112). Modern physics was revealing a view of the cosmos where traditionally opposite principles were to coexist in a sort of yin-yang situation.

The following poems articulate Larrea's understanding of the chaos, disintegration, and multiplicity at the base of apparent unity and order, and the complementarity of opposites in the articulation of self and cosmos in his writing.

In *Atienza* (Atienza 145), the traveler/poet finds himself at a crossroad in his path. Contrary to other instances where it leads to enlightenment, in *Atienza* the crossroad collapses into a black hole and as a result, the traveler experiences a "historical vertigo." *Atienza* is thus the name for a spatial-temporal nonentity where the traveler feels that his steps have been absorbed by "a bomb sucking him towards emptiness." Here Larrea anticipates what physics would later call a singularity, a common form of which is a black hole. According to physical sciences, in the first instant of the big bang, space was infinitely shrunken. That instant represents a boundary or edge "in time at which space ceases to exist" (Davies, *God and the New Physics* 18–19, 55–56). This traveler/poet faces such singularity when at the bifurcating point he opted for the direction to Atienza.

Some critics have read *Atienza* as a representation of the state of Spain politically, or as the poet's sense of his country due to his own exile. He is certainly experiencing a state of personal disintegration, which he expresses in terms that anticipate black hole theories in physics. Considering Larrea's interest in science, he would have resorted to black holes to explain his situation, had he known of them at the time. He does refer to such a hole as space and time collapsing into the thin line of the horizon and with his bones being crushed. At the closing of the piece he reflects that the blue eyes of vision should have emerged from Atienza, from the meeting of two opposite sides, if their complementary interplay had been maintained. But failure to reach such complementarity leads to total collapse.

The reference to blue eyes connotes the ideal region, the Blue or *Azure* where the STAR resides. *Atienza* describes the death of the blue star in terms that echo the death of a star in physics. When a star dies its end is accompanied by a great deal of crushing and grinding of burned-out matter that has to be compressed in a smaller space. What was a huge star is literally crushed until its light disappears. Gravity has been the cause of this death or black hole. Even the references to the horizon line in Larrea's piece correspond in a black hole to an invisible border around the hole where the force of gravity is so great that anything that falls there is gone forever. *Atienza* is the scenario where Larrea enacts the death of the star leading his dreams for his country and his own self. When he approaches this black hole, his figure flattens out just as it would happen to someone approaching a black hole. The historical view this poet/traveler takes in *Atienza* suggests the fast-forward sort of view of the whole history of the universe that someone would have if crossing the horizon line of a black hole. In the singularity, all forces of space, time, energy, matter, and light converge together. That's why there is no difference about going forward, backward or sideways, as Larrea's traveler notes (see Shlain 357–360).[9]

These compositions express the poet's state of arrest and stagnation as he is unable to counteract the pull of gravity from his own depression. As in the singularity of a black hole, the poet's dreams have collapsed and shrunk. As he finds himself in the abyss, he seeks ways to reach some complementary solution between his present state and the potential he once had or strived for.

One of the most interesting illustrations of Larrea's view of complementarity, in Bohr's terms, is the prose piece entitled *Dulce vecino* (Sweet Neighbor; *A Tooth for a Tooth* 34–37). "Vicinity," understood as a "sweet" relationship of self and art with nature, space and time,

form and chaos, is the focal point of this piece. Just as traveler and nature let go of control in order to establish an exchange based on mutual deference, a painter who succeeded in trapping nature in his canvass—as the piece relates—petrified and killed it after fixing it in artistic form. When the painter took his desire for realism a step further and inserted his own self on the canvas, he found death. Instead, art needs to maintain a complementary balance between representation and creation and be both simultaneously. Another example of vicinity explored in the piece deals with the dualism between chaos and cosmos. Chaos is the formless *materia prima* that, after form came about, was left roaming and latent in the universe, taking daily revenge for having been excluded when the universe took form. Space and time are the "forms" of the universe, the parameters whose rhythm determines the cosmic order. As Larrea's speaker asserts, if they were conceived as intrinsically connected, constraints would fall. Larrea is proposing a synchronous approach to reality instead of perceiving space and time as absolutes that the human factor cannot affect.

In each of the three examples of "vicinity" in this piece an essential element is to do away with will and control of one side over the other. To impose rules over nature not only limits our knowledge, since we only see it through our human lenses, but also leads to destructions of which ecological damage and animal extinction, among others, warn us constantly in our world. Likewise, art and reality have to maintain a balance, a back-and-forth exchange to avoid control of one over the other. If that happens, either art dies on the altar of realism or it becomes detached and abstracted from reality. Finally, Larrea's third pair suggests notions of a spacetime continuum, and the creative and necessary role that chaos plays in cosmos.

These poems have dealt with the state of motion in life and the cosmos as well as in art. On one hand, the poet is faced with disintegration and collapse at the personal, historical, and artistic levels. Although chronologically it is clear that Larrea's poetic intuition of a black hole antedates the coinage of this term by John Wheeler in 1967, the analysis of images and expressions in Larrea's poems and prose pieces has shown striking similarities with terms used in discussions of black holes. On the other hand, these poems also deal with the need to maintain the complementarity of the poles in pairs and dualisms in order to avoid collapsing into a black hole. Expecting to resolve mystery by total and reasonable elucidation may not be a workable route to take for the game of reflections is ongoing. Technological progress opens up ways to approach extremes that

would have been insurmountable earlier, while "vicinity" with the surrounding world is a much more productive approach than imposing control. Sciences, in turn, may save us from excessive subjectivism. It is thus possible to harmonize progress with art, the present with the past, sciences with the individual and subjective identity, chaos with cosmos. Complementarity facilitates the knowledge that multiplicity is at the base of unity and that any integration is merely temporary because the interplay of opposite poles must continue.

Confluence: Artistic Self-Reflexivity and Field Theory

In his *Presupuesto vital* Larrea called for the work of art to be "an animated artifact . . . which, inserted into the human complex, may unchain the multiple vibration of the inflamed" (*Versión* 352). And that "multiple vibration" comes from what is "inflamed," that is, the spark of enlightenment. The analogy of the work of art with a machine confirms Larrea's liking for change and renovation, and for organized structures, such as the atom, molecules, and microorganisms. Larrea admired these systems because their meaning resided not so much in each of the pieces separately, but in the links and connections constituting their core. If a work of art was well built, in the best meaning of *creacionismo*, it should unchain the energy and vibrations that lie dormant underneath the surface; it should produce the sort of "traumatism" that Huidobro's poetry and the view of Machu Picchu had on Larrea himself. When he visited the pre-Columbian Inca site in Perú, Larrea was taken by the harmonious assembling of the stones, which led him to refer to it as "lapidary poetry."[10]

Larrea's interest in the artistry involved in the assembling of the work was running parallel to experiments taking place in physics. In 1888, Hertz had verified the theories in Maxwell's equations about the electromagnetic field by placing two electrical circuits across the room from each other. In the first oscillating circuit Hertz emitted electrical waves by using a spark discharge. When across the room the second circuit also began to spark, it confirmed that the waves had produced similar oscillations in the second circuit. Hertz's experiment proved that electrical vibrations traverse the field and behave like waves, thus setting the foundation for communication at great distances via wireless telegraphy (Morse 16–17). In his experiment, Hertz followed closely the lines of force along which runs the vibratory energy pulsating in things. Larrea may not have known intricate details about these experiments, but he was aware of them because

in a letter to Gerardo Diego dated February 18, 1920, he writes: "By chance a *creacionista* pamphlet has fallen in my hands written in Catalan by J. Salvat Papasseit, 'Poems in hertzian waves,' eight or ten illustrated poems, written under the influence of Huidobro and Apollinaire followers" (Cordero de Ciria & Díaz de Guereñu 118).[11]

Research on vibrations, electromagnetism, and the luminiferous ether reflects a radical shift in the perception of matter and space. With new advances, such as x-rays, the belief in the solidity of matter had been shattered. Space was no longer something just there, motionless and static, but a realm filled with vibratory energy, as Faraday's lines of force had revealed and Maxwell's equations had verified. Ether was considered at the time to be almost synonymous with space, the vehicle for the transmission of the energy crossing through space and, according to Hinton, the liminal point between the third and fourth dimensions (see Dalrymple Henderson, "Vibratory Modernism" 129). Morse reports that between 1900 and 1918 in Spain several books were published on the topic of electromagnetism and hertzian waves (32).

In a letter to Gurney dated April 27, 1973, Larrea describes the way he was writing up to 1926:

> My aesthetics thus became an *anti-methodical* proxy of formulating word sequences constituted in images, and related among themselves, like in magic—but of this I had the least idea—by links of similitude or contiguity, of attraction and repulsion among the charges which, like representations, transported their natural meanings. In this way associations and dissociations were constituted in electrical-like contrasts. (*La poesía* 179)

Larrea's conception of poetry writing that is lyrical as well as energized, like an electromagnetic field, is by way of creating a poem as a design made of analogical and contrasting connections and relationships among words and images. These connections may be so striking as to suggest the presence of magic in the enterprise or, in other terms, electrical charges of attraction and repulsion. His goal, as stated in *Orbe*, was to turn his back on a way of thinking based on absolute and a prioristic statements and, instead, to speculate via the imagination on the structure of the cosmic and poetic universe.

The interlocking of elements in the theory of the electromagnetic field proves to be a good analogue for what Larrea attempted to do in poems where he was searching for the texture of the cosmos, of poetry, and of the self. The objective is to imbricate the poem into

a structure whose elements maintain cohesiveness through positive and negative charges. Through these exchanges new meanings, a new language, a new consciousness would emerge, which would convey in words the order of the cosmos and of the self. Critics have noted the "electric current" running through Larrea's writings (Bary, "Sobre la poética de Juan Larrea" 119; Gurney, *La poesía* 75). In the following pages I will examine a number of poems to illustrate Larrea's conception of poetry as a self-reflexive system of interwoven elements whose connections aim at reaching the boiling level at which energy will spark with knowledge.

In *Razón* (Reason, *A Tooth for a Tooth* 2–3), Larrea wrote that a poem is "Eloquent sounds in a succession moved to splendor." Words should not be combined simply for the sake of producing phonetic effects for sounds need to be eloquent, to say or convey meaning since they are to lead to the radiance of elucidation. Furthermore, the acoustic and the visual go hand in hand in Larrea's poetry. What he calls "eloquence" corresponds to the "vibratory frequency of the colors" in *vibracionismo* (Morse 44). Larrea's eloquence of sounds is their capacity to vibrate on their own and alongside the other sounds in the same word, line, stanza, and poem. Thus, sounds will speak with eloquence because they will be communicating the vibratory energy in the field. *Razón* comprises Larrea's understanding of poetry making, of life, and the cosmos in terms of sequence and simultaneity, duration and synchronicity. On one hand, his definition of a poem quoted earlier echoes Bergson's notion of *durée* (duration) as it perceives the universe in a process of becoming and reality not as solid matter but as living, creative evolution. On the other hand, Larrea's repetition that the poem is "that/ and that/ and that/ and that" (lines 2–6) suggests simultaneity. Poetry is everywhere and is everything. Poetry is not some abstract, a priori notion but ingrained in the poet and the world. Poetry and poet, subject and object are two sides of the same coin.

Larrea perceives the sequential nature of poetry as words succeed one another on the page. But he is also very much aware of the way they relate among themselves with those preceding, following, and even with those in other poems. As in the electromagnetic field, eloquent sounds moved to splendor are like the lines carrying the energy.

Belle Île 10 Septiembre (Beautiful Island September 110–13) is a good example of the confluence of the spatial and temporal, of writing and reading as the meeting of cosmic, poetic, and erotic energies. Written like an imaginary love letter after a trip to Bretagne in 1926

(Gurney, *La poesía* 222), it refers to Belle-Île-en-Mer, an island facing the south Coast of Bretagne. As Bary explains, Larrea decided to take this trip in October 1926 after his plan to go to Oceania with Mexican Antonio Riquelme and with Spaniard Fernando Regoyos, son of painter Darío de Regoyos y Valdés, failed. It was Regoyos who backed away from the trip, so that Riquelme and Larrea decided to spend one month in Finisterre in Bretagne (*Poesía y transfiguración* 67). Reading and writing constitutes the frame for this composition. The poet seems to be standing "on the footstool of this migratory pulse," that is, the island where time seems to have reached its peak, while reading the beloved's letters. In *Orbe* (31), Larrea refers to "the apex of time" as the point of equilibrium of forces where man sees himself as part of a universal being in constant movement. The poet is also occupying a position in transition between his writing and the angel or SHE. This in-between position is part of the poet as *voyant*, a medium between this context and the spark or beyond. The time, the sunset, is also a transitional point in the day. Furthermore, his standing on foot on top of the island suggests the tension involved in writing and the exacerbation of sexual desire. That's why the sunset is "Burnt by the impatience of the waters" hitting against the seashore just as desire, and the flow of words, urge the poet to let them out in the flow of writing and in the flow of the sperm. There is creaking as the poet seeks his images, which for Laemmel-Serrano express the violent nature of poetic writing (154–155).

The erotic connotation of this and other references in *Belle Île* associate writing with lovemaking and with the notion of a field traversed by energies assembling and unassembling. The transitional position occupied by the poet, by the island as a geographical point, and by writing itself is the same one Larrea describes in "A Tooth for A Tooth IV" in "Between the junctures of the hemispheres" (50–51). The juncture is the space of writing, of creating, of lovemaking. The provisional nature of this space is, as in scientific thinking, a representation of the equally provisional nature of any conclusion or poetic resolution to the cosmic dilemma. On that transitional position, a crossroad in space and time, the poet remembers "your breasts in the shape of a city" and simultaneously his heart "unfurls its active banners / towards the exploding horizon." This creative and erotic explosion is compared to the sea strangling a dove or to the interchange between waves and foam, both images charged with sexuality. The pulse of cosmic energy, plus the high standing of the island, plus the waves, all collaborate to create an experience that is orgasmic and happens in the realm of the letter reading/writing.[12] The force of

the experience is such that it shadows the waves breaking against the rocks. The poet finds the SHE/energy more desirable than the One Hundred Year War, a reference that may have been suggested by the location in Bretagne, indicating the persistence of his desire for her.

On the island as the peak of time, the poet reaches clarity and can go through customs toward the SHE. But as a peak, fusion and dissolution are simultaneous, as the final line indicates: "I love you by transparency in short I mildew you / Juan." To rust/to mildew refers to an organic process, which the verse places almost simultaneously with, or as a result of, the transparency of the love. The line thus sets side by side the simultaneous realities of light and rust. Laemmel-Serrano notes that *te enmohezco* (I mildew you) comes to be the reverse of *te amo* (I love you), but she does not make any further connections about how those two things are the two sides of the same phenomenon. In terms of poetry making, capturing the image in the poetic chase is simultaneous with obliterating the thing that the image purports to represent.

This poem offers a good example of a point in time and space where the cosmic energy concentrates and fuses to disintegrate almost simultaneously. The poem has brought all the energy onto this island as a peak in the spacetime continuum. And this has happened within the poem, which, in turn, is a letter. Furthermore, the poet is reading her letters while writing his letter/poem. It is this encapsulated experience, the parameters of the poem/letter like those of the island, that articulates this encounter. The self-referential nature of this poem is not only a comment on the fact that writing for the light is in itself the light, but also that the poem itself is configured as the space where the light is reached. Last but not least, the poet adds his name at the end of the poem/letter. In this gesture, Juan the poet is author of the poem/letter and protagonist of the same text.

There are not many poems where Larrea recreates an experience of the richness of self-reflexivity, although there are glimpses of it in compositions previously analyzed. *Razón* and *Belle Île* stand out for placing the emphasis on the diversity and multiplicity involved in creation, on the way in which similar and contrasting words relate in unexpected webs and designs, and on the electricity and energy emerging from these varied combinations. They also focus on the provisory nature of these patterns while seemingly framing Larrea's intention: *Razón* presents his *ars poetica* while *Belle Île* puts it to practice.

Larrea's poetic works are a complex body that often resists analysis. His prose writings, however, offer some light and have been

quoted here for that purpose. They also provide a further view into Larrea's intellectual involvement with a wide range of topics. As an organizing tool, this chapter has arranged Larrea's poetry into three sections, although some of the features overlap from section to section. By correlating the author's prose texts with his poems, it has been possible to ascertain his views on sciences and the arts, mainly, and establish a link between his personal and artistic search with scientific discoveries and technological progress. Larrea's search for a SHE, also identified as a star or beyond, relates to the aspirations of other artists of his time and to theories about the fourth dimension. The SHE represents the expansion away from traditional and conventional restrictions in art and life. Associated with hypothesis, and with the contortions of spacetime, the SHE is Larrea's world of art as enlightenment and multiperspectivism. The SHE is language whose malleable words and meanings correspond to relativity. One of the main obstacles in reaching the SHE is the persistence of the either/or dualistic way of thinking. The second section tackles this situation and, as poems attest, the solution is not in resolving dualisms into fixed unities, but in maintaining their complementary relation. Otherwise there would be the risk of collapse into the black hole of a blanched, meaningless language. Maintaining complementarity corresponds to the malleable world of relativity and self-reflexivity, which, like an electromagnetic field, sustains the ongoing exchange among words and meanings.

Confluence and convergence are related terms. Confluence, a term commonly used in geography, refers to the meeting of two or more bodies of water. Convergence is used in mathematics to refer to a liminal type of behavior, which in a sequence or series moves toward a limit. Such limit may be unknown, but its search determines its existence to a great extent. Both terms convey a process in which diverse currents, behaviors, or streams flow together toward a limit or meeting point, what Larrea has called, among different terms, a crossroads. Whether it is by way of technological progress (cars, trains, wireless telegraphy), by emulating the scientific method, or by exploring writing, Larrea's poems bring together different strands of thought that either merge into multiple configurations, breaking through into new venues of knowledge, or crush into collapse. Like atoms in a collider, Larrea puts his words and thoughts under drastic clashes, contractions, and mergers in order to reach new configurations and further meanings. His findings seek to maintain a balance between opposites so as to avoid the falling into incomprehensibility.

They are thus never permanent for, as he himself admits, life is a confluence of relative entities:

> And here is how this collaboration of Juan Larrea with life, of subject and object, has written this book which is pure relativity . . . This seems to be the vital entity, the confluence of a certain number of relative entities placed in a different way in relation with the mechanical current of time and space. Life cannot be in the same place everywhere. Since it exists there is a different notion of the absolute which only exists there where it is perceived. That absolute . . . is an appearance, just as the immobility of the earth is. It is born from a certain equilibrium, from a certain reason for different movements. (*Orbe* 229–230)

Chapter 4

Creating Worlds: Self-Reflexivity and the Cosmos in Gerardo Diego's "Poetry of Creation"

Between 1918 and 1922 Diego wrote *Imagen* (Image), *Limbo* (Limbo), and *Manual de espumas* (Manual of Sea Foams), three books that reflect the atmosphere of change and exploration existing during the times of their composition. They are part of Diego's "poetry of creation," which also includes *Fábula de X y Z* (Fable of X and Z; 1926–1929), *Poemas adrede* (Poems on Purpose; 1926–1943), *Biografía incompleta* (Incomplete Biography; 1925–1960), and *Biografía continuada* (Continued Biography; 1971–1972). In contrast with Diego's more traditional works, his "poetry of creation" reflects the early twentieth-century atmosphere of renewed attention to the relationship between art and reality. As Diego himself declared, modern poetry was to shift the traditional focus from the subjective to the world of things, or in other words: "Not to look for things in us, but for us in things."[1] In a 1976 interview with Fernando Delgado on the occasion of his eightieth birthday, Diego reiterated his commitment to things, to the point of identifying it as the most fundamental aspect of his poetic credo ("This seems to me to be the fundamental aspect in my poetry" [12]).

In his "poetry of creation" Diego develops his project of artistic renewal. The series *Imagen, Evasión* (Evasion), *Imagen múltiple*, *Estribillo* (Chorus), and *Limbo* focuses on the search for the realm

of new art, a "beyond," not as a level transcending reality but as a discovery of what constitutes the core matter of reality that centuries of conventions have buried. In this, Diego shares a goal with other artists as well as scientists who were then exploring the possibility of more dimensions to reality and new venues for art. It is in *Evasión* that Diego attempts to give shape to that realm. Although the language is still traditional, he is gradually moving to more unexpected word combinations that defy rational understanding. The big jump to poetry that is totally creative is made possible by means of the "multiple image," which he explores in *Imagen múltiple* and subsequent collections, culminating in the cubist aesthetics of *Manual de espumas*. By freeing language from rational constraints, it becomes possible to glimpse other dimensions of experience and meaning. Music, as it is explored in *Estribillo*, and the rejection of trite and overused symbols, as developed in *Limbo*, are other ways to access the beyond or space of pure creation.

Diego's focus on reality explains the impact cubism had on his poetics. His 1922 trip to Paris was instrumental in this regard, not only because he spent considerable time with Vicente Huidobro (1893–1948), the Chilean poet whose artistic program called *creacionismo* was to shape Diego's own aesthetics, but also because with Huidobro's help he came into contact with artists such as Juan Gris (1887–1927), María Blanchard (1881–1932), and Fernand Léger (1881–1955). As Diego himself admitted, conversing with these artists, attending their gatherings, seeing their works, and hearing them discuss cubism, opened for him "original perspectives" (*Versos escogidos* 37).[2] In cubism, Diego recognized his own interest in the acute examination of reality, which explains also the admiration he repeatedly expressed for sciences and the scientific attitude toward reality. Both cubism and the post-Newtonian paradigm in sciences focus on reality not as a totality, but as a gathering of different elements. Cubism presents the object, no matter what it is, as a conglomeration of fragments, rather than a solid whole. The painter's function is to pull apart those fragments in order to explore the object's structure and constitution. Physics, in turn, is interested in the physical and chemical constitutions of molecules, their interactions, and structures, and on the energy and dynamism of these structures. As Waddington explains in his study of the scientific attitude, for the scientist it is a matter of probing into reality in order to find out "how things work" (33). This analytical approach to reality became, according to Waddington, "the pattern for the creative activity of our age" (53).

Diego fits well within this paradigm. Throughout his writings he resorts often to sciences as a model for literature and the arts. In his essay *Retórica y poética* (Rhetoric and Poetics) (1924), he refers to literature as "an alchemy elaborated with simple substances difficult to discern," which have been rarefied by the "harmful sediments" of conventions and tradition. Poets, whom he calls our "chemists," have been able "in long vigils in the laboratory . . . to dissociate the assembled ingredients" and, thanks to "prolonged efforts," it is possible to "contemplate like a marvel the tiny brand new flask with the miserly treasure of a few grams of pure poetry obtained at the expense of self-denying sacrifices" (280). Scientific terms and notions serve Diego in his efforts to give expression to a new art free from the vestiges of romanticism and symbolism. Poets were then called to scrutinize language, to discern words carefully in order to reach to the core of their significance and to extract from it new, unexpected meanings. Diego admired scientific discoveries and even considered their practical impact superior to those in the arts, as he comments in a piece on Huidobro: "Inventions in art or poetry, even the boldest ones in their external form, cannot rival in the material renewal of the world with those in research sciences" ("Poesía y creacionismo de Vicente Huidobro" 538).

Diego's personal library, housed in part at the poet's Foundation in his native Santander, contains a good number of journals and publications of a scientific nature. Among those, in a copy of the April 1921 issue of *L'Esprit Nouveau,* the international magazine on contemporary activity including arts and sciences, Diego must have read Huidobro's piece *La création pure* (Pure Creation) and agreed with the Chilean's call for a more "scientific" approach to the arts.[3] He may also have been curious about two other pieces on current scientific issues included in the same copy, one by Paul Le Becq on Einstein's theories (719–728) and another by Charles Henry on x-rays and light.

In Le Becq's essay, Diego would have read about a number of fundamental notions in the physics of the period, such as the revolution brought about by Einstein's theories and their "general conception of the world," not only for sciences but for other fields of thought as well. Le Becq refers to Newton's and Copernicus's systems, to the central role mathematics plays in Einstein's theories, and to the benefits of such theories for electromagnetism and molecular physics, two areas widely discussed in newspapers and magazines at the time (720). Brownian motion, whose example of cosmic dynamism was impacting the arts, is also discussed, as is ether, a very popular topic among

artists as well as scientists. Le Becq confirms the rejection of ether by Einstein's theories, the establishment of light as mass, and, as such, its obedience to the laws of gravity. The author adds that if scientists are charged with elucidating mathematical formulas, literary and art critics are supposed to discern the mental attitude and psychological process to which those formulas correspond (719). Some of this knowledge must have impacted Diego for, when commenting on Huidobro's poem *Relativité du printemps* (Relativity of Spring), he is careful to clarify in parenthesis: "(Let it be well understood that 'relativity' in 1920 alludes to Einstein's theory more than to the general sense of the word") ("Poesía y creacionismo de Vicente Huidobro" 541).

Both Diego and his friend Juan Larrea, to whom he dedicated *Evasión* (1918–1919), the first book of *Imagen*, were very much influenced by the Spanish avant-garde movement of ultraism. Diego identified the reach for a beyond in *Evasión* with the "ultra" to which ultraism aspired (*Versos escogidos* 21). The "evasion" in the title corresponds to ultraism's "longing for un-trodden paths" (González Olmedilla 2), which young Spanish poets shared with many of their avant-garde counterparts elsewhere. As in the avant-garde, in general, ultraism's search for other realms of reality echoes the fourth dimension that sciences and the arts were exploring at the time. It was the mathematician Hermann Minkowski who, realizing the connection between time and space in Einstein's theory, developed in 1908 the equations indicating that time functioned as a fourth dimension of space. The fourth dimension was associated with non-Euclidean geometry (Dalrymple Henderson, *Fourth Dimension* 11).[4] The contortions in the spacetime continuum—with time dilating as space contracts and vice-versa—find parallels in the unusual images in Diego's "poetry of creation."

Diego's book *Evasión* focuses heavily on the cosmos, a sort of vast hyperspace where the poet hopes to find a better, more enlightened order.[5] It explores a *más allá* (beyond) or different dimension for art and creation, while the following sections of this first book and subsequent ones, including *Manual de espumas*, deal with the actual "construction" or creation of that *más allá*. *Fábula de X y Z*, in turn, offers in a fable format with well-identified Gongorine echoes a sort of allegory of the search, plus the encounter and final separation of the two characters, X and Z, as lover and beloved (poet-poem/poetry).

In his "evasion," Diego is following Huidobro who had already identified poetry as the means to access the edge "*where there is neither contradiction nor doubt*" (cit. Bajarlía 146; emphasis in the original).

For the Chilean, the *creacionista* poem is one "in which each constituting part, and the whole, manifests a new fact, independent from the external world" (*Obras completas* 331). Diego's poems often place the speaker on borderline locations where opposing tendencies merge and facilitate the poetic jump to the untrodden territory *creacionismo* proclaimed. In *Imagen múltiple* (1919–1921), Diego focuses on the multiple image as the main instrument for creating the "new panorama" of art. Resorting to scientific language, Diego perceives the world he is set to construct as an autonomous organism formed by cells he calls "multiple images." The world constructed with these cells will not be a copy of the reality we know, because the multiple image/cell, being "illusion of itself," only reflects itself. The metapoetic nature of this creative enterprise coincides with the interrelatedness in the worldview in modern physics, what Dalí referred as "stickiness" and Einstein as mollusk-like. The multiple image does not hide some profound truth inside because its depth is on the surface, attesting to the importance Diego places on the plastic aspect of poetry.

As the title suggests, *Estribillo* (1919–1921) focuses on music, referring to the line or lines that are repeated after sections in some musical compositions. Contrary to the solidity of classical models of art or the world of absolutes in classical physics, this book proposes the ever-changing water, a medium better suited to reflect the new world of bodies that continuously change and contort in spacetime. The price to pay for putting aside the solidity of classical models is the uncertainty of the new panorama, since water is difficult to grasp and contain in a fixed form. As he follows his liking for music, the poet realizes the dissolution that it implies and its ephemeral nature. Modern, new art is free and open to change, but it also runs the risk of evaporating. The polarities Diego explores in this section remain a constant in his writings. The uncertainty of this situation may explain the title of the following section, *Limbo*.

Limbo (1919–1921) is dedicated to Diego's friends, the ultraist poets working in the journal *Grecia*. Was Diego making a joke, as Arizmendi (28–29) suggests, by referring to his friends as being in limbo? If so, was it because their poetic goals and behavior were too naïve or undefined, or because the reality they sought to "construct" seemed to slip through their fingers? Being in limbo suggests an in-between state, neither here nor there, for "limbo" refers to the border or boundary of something. This book is a complex, heteroclite collection of poems elaborating on an equally undefined topic, the in-between, borderline state of limbo. Overall, it rejects

symbolism because of its trite, overused connotations and supports clean, drastic changes that the modern technology—tramways, trains—provide.

As Diego continues to explore the new panorama of art, he is becoming certain of the uncertainty in the cosmic order. This is no cause for falling into a state of depression; instead, his optimism is channeled by the open opportunities of this uncertain view of the world. With *Manual de espumas*, he will set out to write the "manual" for creation in the modern world of energy, electricity, and chance.

A Field of Energy: *Manual de espumas* and the *Creacionista* Hyperconsciousness

Manual de espumas (1922) represents the achievement of a *creacionista* aesthetics that Diego has been considering and approaching from various angles in previous books.[6] In these poems *creacionismo* and cubist techniques come together to depict scenes filled with light and electricity thus giving shape to Huidobro's notion of hyperconsciousness. As a "manual," this book contains the basic notions of a science; in this case, it is the manual of the art or science of sea foam, a major paradigm for energy and periodicity. Diego wrote this book on the Northern coast; Santander bay and the Cantabrian Sea are the most likely protagonists of many of these poems (Pérez 91). Foam forms in water and is constituted by bubbles that hold more or less together. Sea waves form foam when crashing on rocks or the sand. Foam is thus the result of the collision of the sea with some kind of barrier, and foam is, then, the trace left by the waves. But foam may also be the ashes coming from the combustion of stars, an image that refers to the analogical principle governing the cosmos. The wave's energy reaches its highest peak, the crest, where all the energy concentrates, and it then begins to descend until its final dissolution. The foam system is thus organized around an oscillatory motion going from crest to descent, suggestive of the rhythm of the cosmos, of the eroticism of its constant creative evolution. The foam represents a nonlinear system that these poems reproduce. These compositions are poetic foams, the traces left after the collision of language and reality, reason and imagination, energy and dissipation, subject and object.

Sea waves are a parallel phenomenon to light and sound waves in the air. Understanding light as a wave system implied the need of a medium in which it could circulate. When ether's existence was disproved, what was conceived as the basis for forces in space ended up being the forces themselves. Both sea and light waves are periodic

phenomena. Many poems in *Manual* deal with periodicity, such as time and its seasons. Also, circular and rotating images convey periodicity and the interplay between presence and absence, subject and object, climax and descent. Periodicity implies a cosmic order in which energy is in constant dynamism. Pérez, one of the acutest critics of Diego's poetry, refers to periodicity in *Manual* as the representation of a number of variations on the same theme, the search for beauty (94). This is the search I have identified as the new panorama of art. In this book, it reaches high points of creativity so that poems become fields of electromagnetic energy.[7]

A paradigmatic composition is *Primavera* (Spring 133), which opens the collection with its central image, spring's "body of light" (133), reminiscent of Botticelli's painting "Allegory of Spring" where the wind is also a major protagonist since, by marrying Flora, it gives her the power to make bloom everything she touches. In the poem, spring's "body of light" emerges as a magnetic focus for the whole scene, and as possible representation for the new art that cubists and *creacionistas* were seeking. Spring's body of light becomes a convergence point, a whirl of energy where creativity concentrates with the wind spreading it throughout space. Contrary to the intimate nature of romantic-symbolist art, this new art works as a loudspeaker transmitting its voice into the air waves: "And from it [the poem/nest] you will all sing / in the hands of the wind."

The poem is depicted as "the most beautiful crane" because it is an artistic construction on which the monument to the new art rises. The poet sitting by his window is constructing the scene while observing it. The window is located in the space between the "Yesterday" and "Tomorrow," which the first line of the poem represents typographically by leaving a wide space between the two words. In that in-between space time thickens, materializes, and becomes spatial.

The scene in this poem conveys a physical field energized by the light and electricity of the new art with the wind transmitting it through air waves. The apparition of the rainbow, emerging free from the prison of old art, gives evidence of the renovating power of spring's body of light: "The rainbow sprouts from the prison." The swallows' flight "folding and unfolding corners" endows the scene with a sense of being constructed and deconstructed endlessly; furthermore, it is a verbal representation of the superimposition of facets and the interpenetration of figures with space in cubism, as well as among the elements in the electromagnetic field. Synchronicity in the present time of the poem is also a feature of the spacetime continuum in opposition to the sequential. In the fusion of different elements,

the scene is a meeting place for the exchange of energy, the verbal analog of a thermodynamic system.[8] The speaker is part of the scene for it is his perception that constructs what we are reading; hence the expression "my life" is placed in the middle right side of the poem. Although the speaker asserts his subjectivity, his claims differ from those of the romantic poet. The *creacionista* poet does not lament the indifference of the world to his plight, but rather finds in the renewal of the physical world encouragement and shelter for his personal pain. His star is not the moon, as it was for his romantic counterpart, but the sun. For that reason he can say that even though his life may be bitter, his singing is not.

"Everything is already different," asserts the speaker in *Nubes* (Clouds 159), which could be read as the signal for the change the young poet proposes to carry out in his art. The poem itself marks such a change, starting with the poet who senses the "fever and electricity" of poetic creation to such an intensity that a bottle in the scene becomes incandescent. Incandescence consists of a continuous light spectrum that occurs when heating a solid or liquid until it shines. The study of this phenomenon introduced the discontinuity and anti-determinism in quantum mechanics (March 181). The frequency of the light that is produced is the *quantum*. Known as the Max Planck's quantum principle, this phenomenon explains that light, or any other type of wave, can be emitted or absorbed only as quantum whose energy is proportional to its frequency. For the first time in physics a quantity had been determined in such a specific way. Planck's action quantum may affect particles and change their speed in unpredictable ways. The consequences of Planck's principle for determinism would later be explored by Heisenberg and his principle of uncertainty. This factor of unpredictability plays a major role in this book, and in modern art, in general.

Although the incandescence in the bottle would suggest that the speaker is inebriated, it is not a case of alcoholic drunkenness, but of creative power experienced as electricity. The vibratory energy filling the space has an effect on the elements: the tower he may be seeing from his place of observation no longer distributes the winds while rotating nor is the passage of time a regular process: "Neither the wild tower / distributes the winds turning slowly / nor my hands milk the recipient hours." Diego's tower, an image of life itself, also seems to feel the effects of another tower, the *Tour Eiffel*, and its central role in radio transmissions. Technological advances in communication had a notable effect in the perception of space and time.

From these changes, the poem says, a Messiah will be born with the moon as mother. Surmising that the bird messiah will be the paradigmatic poem of modern art, the moon mother would thus reign over a new poetic kingdom, one where the star will no longer convey mystery, but be the target of scientific research and exploration. On this basis, the subsequent reference to cinema gives an example of the changes that are already occurring for, like the tower, cinema disrupts normal perceptions of time and space while reproducing reality: "Sea swells in the cinema are the same as in the sea / distant days traverse the screen." Likewise, the telephone, also mentioned in the poem, connects people distant from each other so that there are no more places to explore because new advances have made accessible the most remote corners.

Nocturno (Nocturne 164) offers one of the most representative examples of the process of poetic creation and its cosmic dimension. The first line proclaims the presence of all types of stars filling the cosmic and creative space: those in the sky; possibly those in fashionable Hollywood nights; and also the keys on the keyboard of the typewriter the poet is using to write this poem. Just as the night opens up its piano of cosmic harmony, the poet plays his own harmony on the keyboard of his typewriter. The poem captures the moment in which writing and the cosmos are fused in producing a world of harmony.

The fog coming out from the sky gives proof that creation is taking place simultaneously with its articulation in language. This relates to the notion of poetic inspiration as electricity and incandescence, and ties in with Fred L. Whipple's essay regarding the condensation and coagulation of cosmic dust into stars. If that is the case, it is possible, as Barnett explains, to think of the universe as a pulsation that continues constant throughout time, renewing its cycles of formation and dissolution, light and darkness, order and chaos, heat and cold, expansion and contraction "through never-ending eons of time." The reading of this poem, as the representation of the process of creation in a boiling state, confirms the hypothesis of the universe as process of constant renewal and energetic vibration (Barnett 100–102). Keeping in mind Einstein's equivalence between mass and energy, it is possible to imagine that the radiation sent out into space may congeal in particles of matter—electrons, atoms, and molecules that, successively, will combine in larger units. In turn, these larger units may combine due to their own gravitation until they form nebulae, stars, and even galaxies. In this way, the universe would start all over again. This theory

opposes the second law of thermodynamics, which predicts the end of the universe in heat death due to excessive entropy. Diego's poem presents a universe in the process of being created, and his "manual of sea foams" suggests the same kind of open and continuous process of becoming. The poem refers directly to the keys/stars, to the specific and material process of writing. Upon touching the keys, the poet is constructing his poetic universe with letters congealing into words and meanings. Just as the word became flesh, the word here becomes/begets universe.

Ventana (Window 168) refers to the place where the poet was at the outset in the poem *Primavera*. Here it hangs from a nail because its limits have framed our view. As an opening onto the cosmos, it opposes the petrified, museum-like view of the painting on the wall. In this contrast, two viewpoints arise, one of an art that constructs a world of its own on the basis of its articulation of the cosmos, and one, the view of the museum, which avant-garde artists associated with dead art. As this book has shown, *creacionismo* has taken the sea as the model for creation. The sea's motion avoids petrification and points to the constant expansion of the cosmos. Diego's manual gives shape to a world understood as an electromagnetic field where elements are connected in reciprocal and complementary relations. This manual does not have a beginning, middle, and end because it consists of "sea foams/poems," which are "viewpoints" from the poet's window. As *Ventana* closes, the wind erases his writing leaving his notebook blank, so that the process will start all over again.

Manual de espumas compiles a set of poems that can be called "sea foams" because they depict the periodic energy of the cosmos as an analogy for the process of artistic creation. After the various explorations in *Imagen* and *Limbo, Manual* constructs the new panorama of art. And it does it by means of *creacionista* and cubist techniques and strategies and by placing artistic creation alongside cosmic creation. The forces of light and energy that move these poems have artistic as well as physical referents. Not only do they achieve peaks in creating new art, but these poems are poetic whirls of energy, of the ongoing motion at the basis of reality. *Manual* creates a world on a basis as fragile as foam, but in spite and because of its apparent fragility, this book is true to the spirit of modern art and physics, as it captures the deformability of bodies in space and time and the powerful energy emerging from such uncertainty. Like sea waves, these compositions are a micro-cosmos of the periodic regeneration and expansion of physical and poetic creativity.

"Ceremony of Correspondences": Metapoetics and Physics in *Fábula de X y Z*

Gerardo Diego's enigmatic fable tells the "story" of two letters, the mysterious X and the Z, which for J. Bernardo Pérez reveal the dialectics between creation and critical self-reflection, and between the desire to possess Poetry and the impossibility of doing so (107). As Pérez notes, X, the passionate artist, seeks the disdainful and beautiful beloved represented by the letter Z, adding that the frequent use of cosmic images provides "an enlarged view of correspondences," which the critic identifies in the fusion of bold modern images with traditional metrics (the sextet stanza) and Gongorine echoes of the "Fable of Pyramus and Thisbe" (111, 113, 106).

However, when considering the fable's cosmic references within the frame of physics, correspondences go beyond metrics and mere enlarged viewpoints to reveal analogical links between Diego's fable of the creative process and its metapoetic focus, on the one hand, and the physics of light, energy, and cosmology, on the other. In the rich atmosphere of cross-pollination that characterizes the period when Diego was writing his early "poetry of creation" and this fable, artists were sometimes the ones to anticipate what physics would later formulate, or physics would establish theories that artists would then render in their own terms from what they had heard, read, or discussed. In this sense, Diego's piece is the fable of the parallel worlds of poetry and physics, or artistic creation and the physical world, of their meeting and outcome. It anticipates what physicists such as Alan Guth would propose in the 1980s as the inflationary hypothesis in cosmology.

Diego's metapoetic concerns in this piece are closely related to features traditionally attributed to the scientific attitude, such as the formulation of a hypothesis, the gathering of data, and its verification or failure. Such metapoetic writing is epitomized in the SHE, the beyond or hypothesis for poetry, and described as *combo* (bulging) and rhomboid, shapes that connote successful creative achievement and the poetic embodiment of the theory of inflationary cosmology in physics. Furthermore, the poet's viewpoint on this project is determined by the bicycle he rides in the fable. Its two wheels are round like eyes and, as they constantly turn, provide a variety of angles or perspectives. In turn the hairs of his beard extend like feelers into the air connecting intertextually his text with the cosmos as well as with other authors and literary currents (Bécquer, Saint John, Góngora, *One Thousand and One Nights*). He tenses, plays, and sends them into space like musical/poetic waves in a field whose energy is shared by

all the many authors and currents in literary tradition. Poetry, thus, works like electrical energy traversing time and space.

In the second section of the fable aptly entitled *Amor* (Love), X and Z, or poet and poetry, poetry and physics, come together in the moment of enunciation, a point charged with energy. The way to represent such concentration or "blown-up" state is the outfit SHE dons: "From shoulder to foot its exact line a rhomboid." When drawing the Z first, adding, then, a diagonal from the top left point to the extreme right bottom, the graphic outcome is the *combo* or rhomboid shape of the SHE as encompassing both poet and poetry, which, in turn, suggests the light cone in Einstein's and Minkowski's spacetime world. The fusion or superimposition of X and Z resembles such representation as two inverted cones meeting in the middle. That meeting point, corresponding to the coming together of future and past at a particular event in the cone of light, is, in poetic terms, where the event of the poetic utterance occurs.[9]

Diego's choice of a rhomboid shape for his SHE, the image of Poetry, also reflects his liking for cubism, which he already acknowledged in *Manual*, because geometric shapes capture the essence while avoiding superfluous rhetoric. Although Diego denounced the excessive use of geometric references in his time, he noted that when used appropriately they could counterbalance the vagueness in some romantic and symbolist poetry and afford the precision needed for the project of creating/constructing a new poetic world ("Una estrofa de Lope" 25).

Offered as a toast to Basilio, the fable is a gift of friendship, testimony of the connection between two people who share similar interests or "a climate of equality."[10] The poet and Basilio share the same desire to reach the rebellious peak where the queen resides, that is, the dimension of new art. The search is identified as a "hunt" for Poetry to be carried out with the purest signs in the landscape, which cannot be other than the geometric shapes the speaker has defended as the best instruments for his new artistic enterprise. Such enterprise is compared to riding on an airplane, as when Basilio, the friend, approaches the SHE by barely caressing the fuselage of his poetic aircraft. Location and position are also important factors: since the hunting is off limits—suggesting the difficulties that well-established models place upon new experiments in art—the poet offers his fable to Basilio "in front of the queen's enclosure in closed season," that is, in front of it and, possibly, looking beyond the limits imposed by the prohibition. The fable provides a glimpse of the enigmatic SHE whose access remains off limits.

The three sections, which have been read as the three tempos in a sonata, could also be read as the phases followed in scientific

investigations. *Exposición* (Presentation) introduces the figure of the poet (as an architect ready to build the edifice of and to poetry), his field of action, his measuring tools, and the formulation of his hypothesis. *Amor* (Love), the second section, comprises the testing of the architect's hypothesis, that is, the SHE queen with a *combo* dress and a rhomboid form as providing a full, complete image of the cosmos and poetic creation; the third, *Desenlace* (Denouement) states the undoing of the hypothesis.

The observation point is the bicycle whose optics is described as faith: "nor does the free fixed arrested / bicycle optic of faith stops" (180). It is Pérez, as mentioned earlier, who identifies X and Z with each one of the wheels and with poet and poetry, in which case, they will continue to rotate without ever catching up with one another. The *diedro*, or geometric biplane, is also another observation point equivalent to the bicycle. In both, bicycle and *diedro*, there are two planes coming together by some mechanism or angle, but they do not fuse; they turn together and yet remain separate. Riding on a bicycle the poet sees the landscape moving along, changing as his angle of view changes, perceiving the turning itself of the bicycle or its metapoetic motion. This is what the poet calls the "optics of faith" because the view is not based on certainty, as it is constantly changing. We are asked to accept by faith the bicycle's circular, changing view. Like the observer in relativity and quantum mechanics, the poet has to account for chance as the indeterminate factor in his previsions. This explains the title of this piece as a "fable," a term that does away with pretensions of solid, unmovable truths. However, while fables may not be true in the sense of objectively corresponding with reality, their lessons contain reliable guides for life so that their lying, like all artistic forms, hides a different kind of truth.

The circular optics of the bicycle allows for what Diego calls "a ceremony of correspondences" (175) because the eye, moving around, connects distant points in the scene from which new and fresh perspectives emerge. The poet emits those perspectives as rings and circles (179), or audible and oral waves into space just as someone would create concentric circles by dropping a stone in a pond. The center of this circular vision is the poet's consciousness, *la bolsa de conciencia* (sack of consciousness), which is associated with the sun:

> But in the meantime the sun as counterweight
> upon submerging in the sack of consciousness
> makes the printed firmament ascend
> in ceremony of correspondences.

Both, poet and sun, are responsible for the poem we are reading, the "ascending toward the printed firmament" of the fable.

Exposición, the Spanish for "Presentation," is a term used for artistic exhibits and for religious ceremonies, such as when the Holy Sacrament is *expuesto* or exhibited on special celebrations. In the fable, it is the section that "exposes" or presents the situation for the fable, a space compared to the limits set by an "ironed apron," with a valley and a bridge, a tower, the wind, and a deer. The simplicity of the apron recalls the domestic objects found in cubist paintings: bottles, jars, fruits, tablecloths. It is related to another image in Diego's poetry, the handkerchief, which, like the apron, is a square, well-defined space, double of the canvas or sheet of paper. The expression "the world is a handkerchief" may have been in the poet's mind to represent, with this image, the creation of a poetic world within concrete, geometric terms. The valley and bridge are suggestive of a bucolic, pastoral setting, a sort of *locus amoenus* with biblical connotations of the *Song of Songs* (there is a reference to the cedar tree in the second section). The bridge is inflated due to the heat that is approaching as if it were some kind of animal. Heat and inflation depict an energized context not exempt from erotic connotations.

Not only is the heat animal-like, but the tower is sensible to the touch: "Virtual tower which grows to the mere touch / and bends if anyone thinks." The tower as a concrete presence depends on the speaker, on his words and touch, so that the space for this fable responds to the tactility French physicist Henri Poincaré had discussed in anticipation of relativity. Contrary to Newton's understanding of space as an absolute and immutable void we are charged to fill, Diego's space responds to the observer. The tower conveys mystical and spiritual ascension in religious texts, although Diego might have also had in mind another tower, the Eiffel tower that, since 1912, had been transmitting an official hourly signal that synchronized all watches in reference to Greenwich mean time (Shattuck, *The Innocent Eye* 253). Considering the fusion of classical and modern elements, of art and physics in the fable, this tower of poetry coincides with the Eiffel tower as both are peaks of communication. The verticality of the tower is also an evident sign of erotic prowess, which would correspond with artistic prowess. Conquering the peak of the tower in the fable would be recognized by the "abstract / green oval of the reward," a possible reference to Apollo's laurel wreath and to the fruitful ("green") vulva suggested in the oval shape; as just noted, the oval shape is also the one the SHE will adopt in her fulfilled state. In fusing verticality with the

oval shape, the tower's elliptical shape becomes a sort of androgynous cosmic egg or cone of light.

As expected, to access the tower is no easy task. The evening, when the action takes place, is a lonely one. It is also a wall, suggesting the enclosing, private character of this adventure of poetic writing and love, a time when the cosmos seems to gather its energy in a circle around the artist. The wind, however, has been able to enter because of its fluid nature. Depicted in fairy-tale terms, the wind picks up its tail of "eight miles" in order to enter "in the flat cylinder of the redoubt / fragrant of carnation passport." As *pneuma*, the wind conveys oral emission that, as has been noted, has an erotic connotation. Hence, the wind uses the carnation as the *salvoconducto* (passport) to enter in the cylindrical tower. From the square precinct of the ironed apron (e.g., the sheet of paper), the wind or sperm of poetic inspiration and love enters into this flat cylinder, the expectation being that because of it, it will not remain flat but rise with creative/erotic energy.

Up above near the walls, the deer, a mystical animal par excellence, is flattening its horns so that they can be extended into space and "played" like instruments transmitting cosmic energy. If the tower is the center of communication, the deer horns replicate the wires in telegraphy. The skis, being born from his chest, render humorous the wound in Christ's side:

> and the double ski born from its chest
> with sporting vocation it licked
> as if it would lead to mysticism
> the blooming wheel of illiteracy.

If Christ's sacrifice led humankind to salvation, these skis will lead illiteracy to blooming mysticism. Also, deer and skis connote a snowy landscape that, as in *Manual*, suggests virginity, or the unmarked space of writing. The wheel of illiteracy could only be the poet's bicycle, his means of transportation for the poetic quest, which is illiterate because it has not yet revealed the truth of poetry; nevertheless it is blossoming because, as the search proceeds, the deer's skis will eventually lead it to the queen.

The figure of the poet as architect in the following stanza fits well with the goal to construct a new world in *creacionismo*. He is busy at his beach measuring the "perfect perimeter" as he turns around the tower getting ready to climb it. Why a beach? Diego's poetry refers often to beaches, the desert, sand, oasis, and camels, suggesting an

Arab world easily associated with the imagination, fantasy, and eroticism in *One Thousand and One Nights*. Here, however, the beach is of dry sands because the poet has not yet reached the queen Poetry; when he does, the desert will become an oasis. At this point he is occupied with measuring because the access to the tower has to be carefully planned. As a man of science, he is testing his instruments. He is also a poet/musician/lover and, as such, his way of testing is via "pure arpeggio of venerable gold." Later we learn that the *arpeggios* come from his beard: "and with his fingers—egregious castaways—from the beard he plucks arpeggios." Since the Bible, the beard is a well-known image of strength. Hairs from the beard traverse the field like electrical wires or musical arpeggios filled with energy.[11] As a result, the field resonates with creation. When the poet/architect/musician/lover obtains the right level in his calculations, his measuring tape, usually yellow, becomes the sun ray of this figure suddenly turned into a Zeus deploying his rays: "sideways / folded ruler—he deployed the lightning." Measuring tape and geometry are now the equivalent of natural forces to access the SHE in her tower.

> The movement is diverse:
> here and there he would rotate in gear
> pushing with mutual slow rocking motion
> mechanisms of comb and landscape.

The *engranaje* or gear refers to the field or work of art as an intricate mechanism; it is also another image for the notion of "correspondences." These are here those "of the comb and landscape." The first refers us to the poet's beard and the need to "comb" well the hairs so that the energy is transmitted through the field, *el paisaje*, or landscape, and reaches the peak of the queen. It is the same "combing" that the deer was carrying out with its horns. As he is applying his instruments, we learn that the landscape is virginal because this poet's enterprise has never been attempted before due to its artistic novelty: "virginal landscape which unveils itself / to the docile parallel caress." The "parallel" technique used to "awaken" the landscape, to make it receptive to the poet's caresses, must be that of geometry and fantasy, "comb" and "landscape," strategy and passion, form and content.

This leveling is what the weeping willow and cypress also do. These two trees become geometrical signs: the willow, bending down toward the horizontal flowing of the water and the cypress,

ascending in verticality in the air. The weeping willow has a meridian lament that falls like a shower while the cypress is too old and has lost its sharp edge, although it was learning the "courtesan dialect":

> the weeping willow showered its green benefit
> renewing its meridian lament
> And the cypress which from being old loses the edge
> was learning the courtesan dialect.

What is this dialect? The reference may be to Garcilaso de la Vega's tears flowing in his eclogue I, just as this willow weeps. The cypress tree would be learning such courtly language as it laments the difficulties in accessing the tower. In the balancing of those two geometries, of classical and modern styles, budgets work: "because it is common among willows and cypresses / to balance marquises' budgets." The architect is measuring the various ways to access the tower: should he look into the depths of the waters and lament his fate, or should he elevate his eyes up above? Should he imitate classical masters or find his own way? The answer seems to be to incorporate both. The use of the term "budget" is surprising in this poetic context, although it responds to the fable's goal to level opposites.

References to the *orla* (border) and *borla* (tassel) in the next stanza are signs that this architect poet is a wise and knowledgeable person (see Ema 393); his systematic search merits him a place among serious researchers. His traversing the beach/harp is equivalent to traversing space and time toward the dimension of poetry. He does it on his beard-turned-gondola and by touching, opening, and bifurcating the hairs. As each of his hairs contains cosmic energy, he "gathers" them after their expedition into space and time for they will supposedly bring him airs from a Venetian past or the sounds of romantic harps. Those findings will credit him with enough experience to proceed with his expedition. And so it seems because the architect has now the *orla* or frame for the creation he is constructing. He then applies levels for the ascension toward the "flame in the bird of the tassel / multiple V of wings in the wind." The flame, or erotic and poetic charge, is attached to the academic tassel and identified with the V formed by the many birds flying in the air, as if passion and intellect would fly together in the creative process. Also, the arpeggios he draws from his beard correspond to the many Vs the birds form in their flight, birds already turned into letters; they are all the poems he is composing to reach the queen's peak. The V, together with the X and Z, refers to the alphabet, the poet's instrument, and to the letters

in mathematical formulas. The poet is, thus, sending his birds/words into the energy of the air waves.

Metapoetic references to the alphabet and language reappear in the spiral or path followed by the caterpillar as it moves from basement to attic: "From the basement thus to the roof / in the spiral of an ascending clause / a toothed caterpillar walks." Pérez reads the caterpillar as the critic in the poet watching and evaluating his creation. A failed or incomplete butterfly, the caterpillar may also represent the rudiments of writing, which struggle to ascend from the pedestrian level of the page. The caterpillar moves from the basement to the attic, the two poles in Diego's writing. Being "toothed," this caterpillar remains very close to the mouth or oral emission of the poetry, to the mechanics of writing, not to any transcendental flight. The sun intervenes by bringing guidance to the situation, which echoes the budget balancing in previous lines. Sun and consciousness allow writing to ascend toward the printed firmament, executing the ceremony of correspondences, a ceremony of analogies among disparate levels and things. As a result, all the stars form a staged column to measure the moon. However, not all stars keep order, suggesting the unpredictable nature of creation as it depends also on the observer's viewpoint. The ceremony of correspondences translates into a "sliding of secrets," a sort of flowing of rumors, of cooing of different elements sharing their secrets with each other. Everything "speaks" with everything in this context whose poetic coasts the architect/poet navigates by spreading outward his beard. The beard/harp/gondola has a double point that the poet/architect/lover navigates and harmonizes. He moves "through adjacent planes," those of the two wheels and the *diedro*, and also the pages on which the writing takes place. It is then referred to as navigating "through the brave curving garden," suggestive of the deformability of bodies in spacetime. Moving in this context of creation is no easy task as everything is connected and nothing remains stable.

This first part has presented or "exposed" the elements that are necessary to enter into the dimension of creation. The architect has spread his beard and the strings of his harp to connect and communicate with the waves of energy concentrating in the tower.

The second section, *Amor*, describes the meeting with the hypothesis, the SHE. It happens in May, the month of love. The reference to May's theories seems related to making things heavy with flowers about to bloom. Those who benefit from May's concessions are the lovers whose love will hopefully yield fruit. Also, lovers steal flowers

and lightning because of the blooming and electrical energy of their passion.

After the initial stanza where the scene is established, SHE makes her appearance wearing her bulging dress as if it were "an archangel project in relief." *En relieve* or "relief" refers to the world of plastic arts and geometry, and suggests that this SHE "stands out" as the project of an archangel who could not be anyone else but Gabriel. As May is the month of Mary, the SHE is the recipient of Gabriel's message. She brings the news from the dimension of poetry: her bulging dress is round because she is "pregnant" with messages of creativity. The wind/carnation is the cause of her "swelling," the modern version of the Holy Spirit. Just as the Virgin's conception opened up the possibility for redemption, absolute spaces undergo a similar opening when this SHE advances: "At her passing in two moons or two fruits / absolute spaces / opened." The third stanza is an apostrophic address to love as "sister obesity / blower gust to the point of making hours bulge." Love's obesity corresponds to the bulging dress and results from having blown air into it, the air from the Pentecostal spirit, the *pneuma* of the word. As a result, time also swells up—"to the point of blowing up the hours." Inflated time suggests the plenitude of the present. Such vision brings forth faith in God—"that God is God without collaborators,"—but also the humorous but true understanding that such viewpoint is temporary: "—love love love—from six to seven." This "realistic" comment seems to be tied to the gallant, double of the poet approaching the SHE, the unexpected vision on whom his eyes are fixed. He shuffles some cards that, as "remote wings," refer to poems whose inspiration is still distant (remote). The streets he walks smell of fresh paint because the poetic project is very much still under construction. To seek her always "in quadrature" points to the failure of his enterprise: the obesity of the SHE is the circle whose *cuadratura* (quadrature) has not yet been deciphered.

Considering the difficulty, almost impossibility of finding her, the deictic "And see her here" is surprising. Like a child at play, the SHE is making soap bubbles "that have never seen the foams" because they have not burst yet and therefore still hold idealism inside. Her bubbles depict her as a new embodiment of Venus being born from the sea foam. This SHE, sister of Mary and Venus, emerges as the representation of fulfillment, the mother pregnant with creation. She also extracts from her winter, that is, from her virginal, pure nature, "snow in strips passion in sums." The snow, referring also to the white page for writing, is the virgin space awaiting inscription. From it, the SHE extracts passion the same way as a square root in mathematics.

She also extracts her passion in the daisies of the yes/no game lovers play. But the passion this SHE extracts from her ideal self will end up being food for the lustful Billy-goat, while its future is marked by the uncertainty of the subjunctive. This uncertainty reiterates the poet/gallant's shuffling of his poems.

According to MIT scientist Allan Guth, the early universe might have gone through a period of very rapid expansion said to be "inflationary," meaning that the universe at one time expanded at an increasing rate rather than the decreasing rate it does today. The universe would have started from the big bang at very high temperatures, that is, with high energies that would cause it to move very fast. At such high temperature, the strong, weak, and electromagnetic forces would all be unified into a single force. As the universe expanded, it would cool and particle energies would go down. Eventually there would be what is called a phase transition and the symmetry of the forces would be broken. Any irregularities in the universe would have been smoothed out by the expansion, as the wrinkles in a balloon are smoothed away when it is blown (Hawking 127, 128).[12] Diego's inflated SHE offers a poetic representation of this model for an inflationary universe. Devoid of any margins, this SHE is a universe without distance where words and objects fuse. The fulfilled world of this inflationary SHE is truly a "fable." That's why the future of this SHE is clothed with uncertainty—"her future stripped in subjunctive"—which could mean that, as an artistic construction, this fable involves lying, as previous references have indicated ("to limit in the south with lying").

As the meeting point or crossroad for the two geometric planes of the *diedro*, the "living edge" brings together the disparate directions of "basement" (caterpillar) and "attic" (deer). It is not an easy point of contact—"which complains when rotating its living edge"—and it corresponds with the poet's voice, the poem as the living angle of the poet's perception. The *diedro* edge coincides with the vertex, the point of the observer in the cone of light, where the two inverted cones meet. In the cone of light formed by X and Z, the poet is placed right at the point of contact where the flashing light of the SHE, of poetic utterance, emits. Aware of the fullness, as well as vulnerability of his perception, the lover seizes the instant by arresting it with the apostrophe, that is, with the poem he addresses to the SHE.[13] Like the hunter who is accompanied by his loyal dog, the poet caresses the "back of the instant," perceiving time like a loyal animal because it has stopped its flow to address the SHE. As he proffers his words, the poet holds his hands in the shape of two "waning moons." Such is a

typical posture when praying; also, the hands/waning moons suggest the oval shape of the SHE as a fertile and creative presence.

The love song, in this section, places us within the instant of total fullness, in the round inflation of the beloved. It is addressed to her, as beautiful as any of the Platonic First Ideals: "'To you the beautiful among initials.'" Is she the North Star? One of the brightest stars in the sky, the North Star (*Estrella Polar*) comes from Polaris, which derives from the Greek *polos* meaning axis or pivot. Polaris marks the northern axis around which all other stars move. This celestial rotation held magical significance in ancient cultures. Because of the earth's rotation, the direction in which the North Pole points also changes (Barrow 140). In the poem the star is characterized as "impossible and slow when you come out / tangential when the zephyr returns." Zephyr, the soft wind from the west, is represented in Boticelli's painting as directing Flora's emergence. Its effect on the star in the poem is to make it be somewhat reachable, at least tangentially, as opposed to her distance when first making her appearance. The wind would then have a beneficial effect in accordance with its erotic connotation. To her, the poet sends the beloved caravan of his words, which is the poem we read.

The star is, however, impossible to decipher. To capture her music is more difficult than getting four "aces" in a game of cards. The hunt for poetry is ruled by the same unpredictable and impenetrable laws as those of the cosmos. She does not respond well to the hypothesis and geometries the poet has designed, hence he asks her not to forget to exchange his "countersigns" or the passwords he has developed between him and her. If the plenitude of the inflated SHE is not fully reachable, the "countersigns" may allow some glimpses. The poet focuses on her svelte neck to suggest a comparison with the constellation of the Giraffe or to indicate the height of the star up in the sky. To entice her to get closer, the poet makes a series of offerings: he will set her up as a queen in some Arabic tale by giving her a camel, a desert, and an oasis. These accoutrements are meant to provide her with the riches of the poet's poetic language. A second offering would be to resolve difficult mathematical problems but in nonmathematical situations, such as to extract "the presumptuous / root of the evening column," or to expose the case of the mandolin via theorems. He is willing to apply sciences to issues of an emotional, romantic nature, which would certainly be a prowess and please this SHE whose features are so geometric. The next offering, the fruit from "two soft buttocks / which when open give way to a coin," is quite enigmatic. Fruit is identified with a coin, as the poet had already done in *Camino* (Path, *Manual*): "My

coins are flowers / and one day they will wither." Coins and flowers suggest the fruit of his labor, that is, his poems, which emerge from the two "soft buttocks" of his sitting at the typewriter. A reference to it comes in the next stanza: "Thus the key tapping / in rhythm and light of typing." Writing is such an engulfing and absorbing activity that the poet may forget about the subject matter and be entirely taken with the writing itself: "in the rhythm and light of typing / I forget your name and my desire." However, he urges her to give him her "finger print, trace" or her identity signs so that he "will inscribe my program on your rhomboid."

Upon completing his song, the narrative voice tells us that the lover "collected his round sighs," the concentric circles that his song has formed in the air, just as those formed in water when a pebble is thrown. Silence comes with the arrest of those concentric sound waves. As the lover descends from his state of inspiration by slipping on two rails (a train, possibly), the smoke from his cigarette seems to let go the last remnants from the fire of his creation.

Desenlace continues the downward motion with which *Amor* closed and, as the word indicates, it will deal with the "untying" or "unknotting" of the story/expedition related in the first two sections. Going down the plane, the lover is no longer at the juncture where the two wheels of his bicycle come together. The poetic hunting has reached successful results: the wheel of illiteracy has blossomed. However his fingers that tapped the keys on his typewriter are no longer dyed with the color of creative ecstasy, the harp has abandoned the beach, and the angel of his project is gone. Where then is the poet/architect going with his beard?, the third stanza asks. Like his fingers, his hand is also made of the uncertainty of chance and is losing its threads, those containing the energy in space, those that he set out to weave. And like the forgotten harp in Bécquer's "Rima VII," the green of hope is forgotten on the piano of his creative inspiration. The descent is unavoidable and it corresponds to the "exact hour of the capitals," referring likely to the folded leaves adorning the capitals in the columns of the poetic edifice he set out to construct. No more heights ("Apennines") for these lovers. The project is coming to a close. Similar to the capitals, the river skates down with folded feet and wings. Verticality imposes itself over horizontality to indicate the inevitable descent, which, like a straight line, traverses the poet's chest. At that moment the poplar is heard whistling as if it were a train whose speed, when turning to look back, makes the asphalt seem like it is arising. As Pérez notes, the poplar in mythology is the tree that weeps for the death of Phaeton, an image of the

poet. Its weeping is identified with the train whistle as the poet leaves the countryside and moves to the city asphalt. When looking back, the asphalt seems to rise up as a mythic creation, which suggests the poem he has just written. This visual image manifests Diego's interest in the connection of speed and perception: the poet's descent is so inclined and fast that when he looks back the asphalt—or the fable itself—seems to rise like a mythic vision.

The next two stanzas address the poplar tree that, as the poet predicts, and in spite of its lamentations for the descent, will also become involved in the fatal destiny of mortals: "you will also twist fatal figures / and will weave the numerals of mortals." Lonely, but still alert among birds and trains, that is, between the country and the city, but abandoned from *mademoiselles* and misses, this tree is the representation of the *ubi sunt* theme (where are they?). What became of the many instances in literature and art when the poplar was the protagonist? From the temples of this tree, rounds of farewells—possibly the poems—emerge, as the tree is an image of the poet. This fable may be considered as one of those circles. It closes with an urban scene where it is the asphalt that feels pity while the poplar tree has been left behind. No fatal tragedy has occurred ("abandoned sob without a pistol"), except the remnants of old poetic styles now reduced to barely alive "violets" and a landscape made "sweetly rotten" by lute music.

In closing, the last stanza refers to the final judgment of the "greyhounds," the dogs accompanying the poetic hunt, which is delivered at the level of the throat because it is a poem. Like the Cerberus dog, these "greyhounds," which could very well be the readers and critics, will be the ones to judge the poetic hunt that has just been completed. The bicycle reappears on an elegant but uneven plane, immobile but turning and singing. In spite of the uneven ground where it rides and the uncertain goal of its journey, the two wheels continue to sing the ongoing chase of word and thing, art and physics in their never-ending pursuit.

There is in the New York Museum of Modern Art a sculpture entitled "The Broken Obelisk" (1965) by artist Barnett Newman. According to Shlain (254–255), Newman unknowingly created "an artistic replica in steel of Minkowski's two-cone model to visualize objects in the space-time continuum." Newman's piece consists, on the base, of a solid pyramid shape. Considering the antiquity of the pyramid structure, and its evocation of ancient civilizations, it seems accurate to assume, as Shlain indicates, that Newman's intention may have been the need to preserve and hold on to the past. The view from the apex of the pyramid corresponds to the position of the here and now in Minkowski's model and

it reaches into both the past and the future. The top in Newman's work begins as a pyramid but then extends as a cube whose top is jagged and unfinished, suggestive of the unknown future. Likewise, outside the walls of the double light cone there is an *??elsewhere??*, with double question marks, because we cannot know anything outside of the crystalline prison of the cone of light. Diego's fable may also be interpreted as a verbal representation of the cone of light of poetic creation and the search to reveal its mystery.

As stated in previous pages, Diego was cognizant of Einstein's theories and it would not be surprising that he had read about Minkowski's representation. In the cone he creates in his fable, the base connects with classical forms of art—Garcilaso de la Vega, Saint John, romanticism, symbolism, Venetian culture—corresponding to the *bodega* or wine cellar from which his artistic cosmos always drew inspiration. The top is marked by the vertical directions of the tower and the cypress tree, although the tower changes according to touch and the cypress no longer has a pointed top. However, there is always the move toward the rooftop where enlightenment resides, although the poet is fully aware that such top is not stable or permanent and that the search, like a musical instrument, has to be tuned continuously. The back-and-forth between these two cones is what the poet has to navigate; from their point of contact, poetic utterance emerges. Like the elsewhere in Minkowski's cone of light, Diego's fable does not relate to any outside reality beyond its crystalline structure as a work of art. It is, however, a world unto itself, a theater where the encounter of art and physics, word and object, poet and poem is enacted.[14]

From *Imagen*, and its youthful search for the beyond, still clothed in traditional language but impelled by a very avant-garde desire for a beyond, Diego moved to explorations into strategies with language that gradually increased the audacity of the poetic jump. Anguish is not frequent in Diego's poems. Instead, he relishes the electrical charge involved in venturing into new venues of creation. Physical phenomena, like the sea, foams, light, electricity, the stars, and periodicity, spark his poetic imagination and are essential ingredients in his construction of the new panorama of art. This is a panorama where nothing is fixed and knowledge remains provisory and uncertain. In this regard, the fable is a mature, self-conscious construction, a sort of allegory of the search for knowledge, a strong poem about the enigmas of creation and of the cosmos. In it the poet allows himself to have fun and enjoy, although temporarily, the vision of *creacionismo*, the fully erected edifice of the new art.

Chapter 5

Rafael Alberti's Comet or the Poetics of Energy and Light: From Electromagnetism to Thermodynamics

Alberti was twice a witness, in 1910 and 1984, to the appearance of Halley's comet in the sky. To commemorate each occasion he wrote *Elegía del cometa Halley* (Elegy to Halley's Comet), included in *Marinero en tierra* (Sailor on Land 167) and *Retornos del cometa Halley* (Returns of Halley's Comet), published with the proceedings of the 1983 Symposium in his honor held at the University of Toulouse-Le-Mirail (*Dr. Rafael Alberti*).[1] Both poems reveal a strong identification between poet and comet: two wanderers appearing near the beginning and the end of the century, orbiting erratically around the sun, searching for the light. Besides the coincidence of poet and comet in time, it is no surprise that Alberti would feel attracted to Halley's comet (figure 5.1) considering the beauty of this astral body, as captured in photographs: a luminous white body propelling forward and emitting, or surrounded by, a halo of a yellow color turning into an intense, fiery red, against a blue and, further on, black background.

The energy, movement, and color of the comet's photographs are three major ingredients in Alberti's painting, poetry, and in his life as well. One of Alberti's earlier paintings dated 1919–1920 and entitled *Paisaje sideral* o *Maniobrando las estrellas* (Sidereal Landscape or Maneuvering the Stars) is a 20 x 24 centimeter gouache showing

Figure 5.1 Halley's Comet.

the enveloping and deep black background of a night sky with very brilliant stars. A sphere—the earth, possibly—emerges from the bottom while another one, white and smaller, the moon, is shown from the top and seems to be reflected on the lower sphere. The reflection forms a pointed triangle reaching the moon, which, in turn, seems to open up a path into the starry night; in a whimsical way it evokes Merlin's hat, an appropriate reference in this picture of a magical, childlike cosmic view. A chorus of stars circles around this reflection, producing the effect of a show with earth and moon desiring one another and with the stars watching and sustaining this show of cosmic interaction. If the reflection were joined with the moon, the emerging form would be a sort of cone of light or hour glass (figure 5.2). As in this painting, Alberti's early poetry illustrates a similar interchange between earth and sky, sea and space, a desire to capture the light and color that the young and mature poet saw in the comet and that so powerfully conveyed the energy of the cosmos, of life. A study of Alberti's poetry in connection with his paintings reveals the close links they hold with the science of thermodynamics and electromagnetism where these works find an analogical counterpart. I will carry out such a study in this chapter, starting with

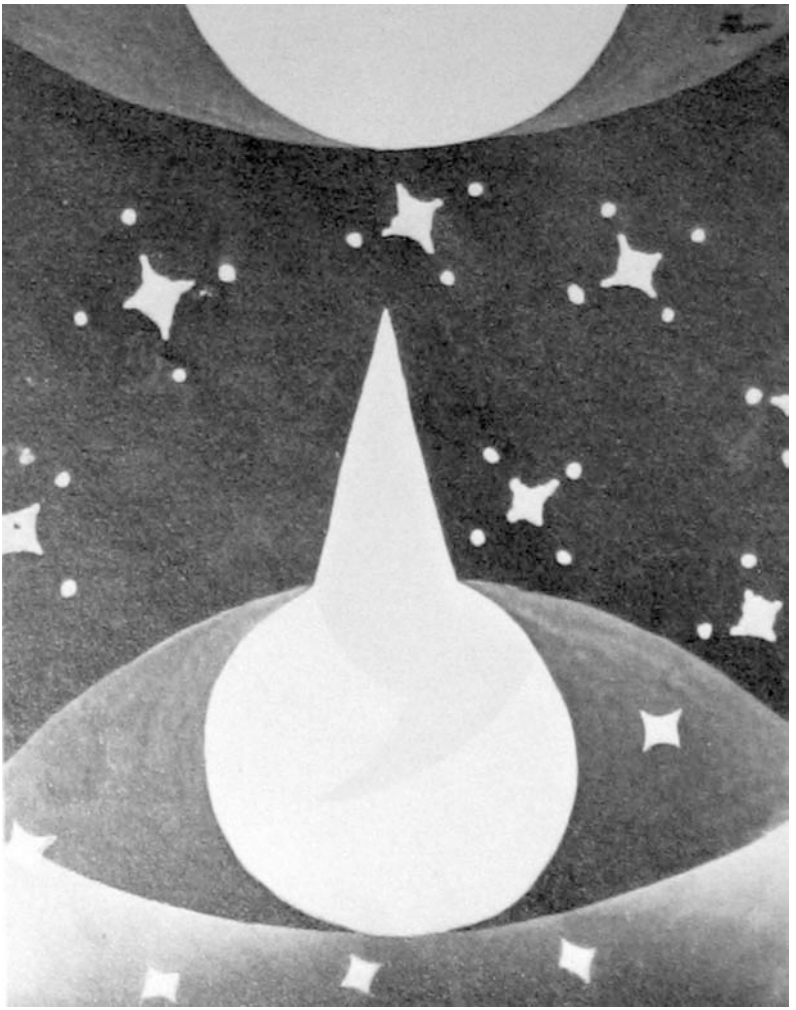

Figure 5.2 *Paisaje sideral* (Sidereal Landscape), Rafael Alberti.

the collection *Marinero en tierra* (Sailor on Land 1924), and closing with *Sobre los ángeles* (On the Angels 1927–1928). Critics, such as Jaime Brihuega, have already studied the merging of word and image in Alberti and the connection of his plastic works with those of the Delaunays, Barradas, Celso Lagar, Pankiewicz, or Jahl. The meeting point for the works of these different artists is their shared preference for dynamism and energy. No study, however, has paid attention to the connection the artists felt between energy and physics, whose

field was also very much focused on light, energy, and motion. In Alberti, cosmic energy takes the form of a whole submarine world, or it is embodied in invented or real figures transformed by the poet's imagination. Like the comet that modeled his life, Alberti's artistic trajectory goes from a desire for the light and color of his native sea to the darkness of *Sobre los ángeles*. And like the comet, Alberti's poetry has a return, a renewed creation emerging from the chaotic world of *Sobre los ángeles*. As this study will show, Alberti's book of surrealistic poetry is entropy turned into the stuff for a new type of creation.

Although the 1910 apparition of Halley's Comet occurred after Alberti's birth, the impact it had on him suggests the situation, so frequently exploited in stories, where the hero's destiny is marked by the astrological signs at his birth. The comet's colorful beauty, swift motion, and energy embodied the desires of a boy who felt trapped by his family and school situations. In the memoirs of his early years, Alberti complains that relatives constantly watched his every move and that teachers had a condescending attitude toward him and toward his parents' failing economic situation. Alberti must have been nine when his parents suffered a down turn in their finances. Because his father was gone most of the time on business trips, it fell to some relatives in his extended family to help the mother watch over him and to provide some financial support. At school, he felt humiliated when other children, including his own cousins, were treated with more deference than he because of their greater financial standing. The sight of the swift, colorful comet meant all that the world of the young boy, wounded in his pride, resentful and bitter, did not have. The two poems that Alberti dedicated to the comet leave no doubt of the importance it had for his own sense of self: "I already was what I was not" is the first verse of *Elegía al cometa Halley*, while "You already were me when you appeared" is the fourth in *Retornos del cometa Halley*. When the child first saw the comet, he was already what he was not, that is, the poet and artist harboring desires to reach cosmic heights, to escape from the misery of his situation, but that had not yet materialized. However, the comet, as he remembers in his mature poem, was already he because it had achieved what he had dreamt to achieve. The first poem is an elegy because the comet has already passed; the second combines remembrance of the first apparition with the astonishment of its return.

Elegía is addressed to Sofía, a young girl sitting at her balcony in Madrid whom Alberti admired, after his family moved there from Cádiz. He is telling her of the event that happened when he was a child in the South: "From the Cádiz Sea, Sofía / its mane of hair jumped."

The young man remembers the comet's luminous tail jumping from his sea of Cádiz, the same sea of his birth and childhood. Combing the comet's "mane" was his wish as a child because it meant to fly away with the comet and to be part of its motion, fire, and light. By "combing" the comet's tail, he could have hold of the many strands containing its light and energy, and could thread it into his own dreams of creation. As he himself told Concha Méndez in their frequent discussions about poetry: "Imagine"—he told her—"that poetry is formed with threads that are in the air, and the poet hooks them one by one to write a poem" (Méndez, *Entre el soñar y el vivir* 47). That's why, as the poem recalls, he went out to the seashore "with a fine comb," and in the same stanza, he asks his mother to loosen the comet's tail so that Sofía could comb it too. This way, the girl becomes his partner in the poetic enterprise and, hopefully, his sexual partner, as well. He is also asking to be freed from maternal control to be able to explore his emerging sexual desire for Sofía. The first line is repeated at the end but with exclamation points: "I already was what I was not!" thus framing the poem as the account of the child's awakening to his artistic and sexual desires. At the beginning, he already was not what he was, a child, because of his dreams of fulfillment; at the end, the emphatic repetition of the same line reaffirms the distance between what he was, in terms of artistic ambition and sexual desires, and his young age.

Retornos picks up where the first left off and reconfirms the identification of poet with comet: "You already were me when you appeared, / like I (was) you, arriving / from the remotest infinites." The comet continues to exert a strong attraction on him: "You drag me, carry me, / your glowing tail astounds me. / I am your tail, your blazing nucleus." Their beginnings in "infinite remote times," in comet years dating back to 240 BC and possibly as far back as 1059 BC, identify the origins of the poet's creative impulse with infinite, cosmic energy. Comet and poet are one and the same: "woven in your extended mane of hair, / we ascended from the sea in my bay, / alone already in one." The Cádiz Bay is the springboard for the personal and artistic adventure of this poet/comet. The journey has taken both

> in the blind, inscrutable spaces,
> of incandescent children,
> of girls and landscapes at high temperatures,
> during so many centuries.

It is not difficult to identify those "inscrutable spaces," "incandescent children," "girls and landscapes at high temperatures" with

the characters and landscapes in Alberti's poetry. They correspond, also, to the dimensions of hot, incandescent space that scientists explore in the fields of electromagnetism and thermodynamics. And the trajectory through space and time is not over yet, as the poem notes: "But now, suddenly, they announce us again. / Astonished telescopes speak / of our apparition for only one night." The reapparition of the comet in 1984 coincides with that of Alberti in the Spanish scene after his exile, a return that was accompanied by a great deal of public attention. During the Toulouse symposium in his honor, which was the occasion of the second poem to the comet, "astonished telescopes" of scholars and people, in general, gathered together to discuss the apparition of comet Alberti. The poem confirms the meeting of poet's and comet's trajectories: "Pilgrim comet of my life, / invisible vagabond / through stellar signs and ciphers." Throughout his many travels since his exile from Spain, Alberti's life, like the comet, has traversed many landscapes and encountered many signs and ciphers of a cosmic and artistic world he has been deciphering. Just as the comet came to the center of the solar system at least in the two occasions affecting Alberti's life, Alberti was at the center of the solar system of letters at different times in his life, but especially when he won the National Prize of Literature for *Marinero en tierra* and upon his return to Spain, when he was the subject of many homages, of which the one in Toulouse is just one example.

If one were to take Alberti's identification with the comet and approach his poetry as the view from someone traveling on a comet's tail, what would come to mind would be Einstein who as a child posed himself a similar question: What would the view be like for a child traveling on a beam of light? The answer is found in relativity: from such location, space and time would no longer appear as rigid, absolute categories but, instead, they would contort and curve according to the masses in the surroundings. Similarly, the view in Alberti's poetic world is one of fusion among different levels of reality. As in Escher's pictorial world, Alberti's poems do away with rigid borders by combining sky, earth, and sea, thus creating a seamless continuum among those various levels. They are interchangeable, reflecting mirrors of each other so that the bottom of the sea may have churches, orchards, and gardens, like those on earth, while the water surface turns the most solid bodies into malleable forms. The result is a worldview that contests causality, favors simultaneity, and maintains things in motion.

The twentieth-century departure from the eighteenth century's no-nonsense tradition, which these trends represent, had been affecting not only the arts, but the scientific field as well. Physics, in particular, seems to be at the head of this growing awareness "of the esthetic dimension of scientific reasoning precisely because it confronted both the most basic and the most abstract of phenomena: the nature of space, time, matter, and movement" (Kuberski 21). It was with relativity and quantum mechanics that the blurring of distinctions between objectivity and subjectivity, the scientific and the aesthetic began. Because of Einstein's theories, long-established notions about space and time had undergone drastic changes; field theory, stemming from discoveries in earlier centuries by Faraday and Maxwell, had given a decisive blow to the atomism and causality in classical physics, and quantum mechanics, evolving particularly in the 1920s, ended the notion of objectivity and certainty. As a member of his generation, Alberti was reacting against the stultifying bourgeois society that he and his friends liked to call *putrefacta* (rotten). Contrary to the decay they perceived in that tradition, the energy in light and motion that physics was exploring opened up new, exciting venues for a similar renewal in the arts.

The centrality of energy stems from the research on thermodynamics since the nineteenth century, and would congeal in the modern notion of energy and in chaos theory. The focus on heat and radiation took precedence over "material bodies and mechanical forces," which had monopolized the attention of physics prior to 1800 (Clarke 21). The increased interest in the study of the mechanics of heat stems from the development of the steam engine early in the nineteenth century and continued with the emphasis placed on radiant energy; it was furthered by a series of discoveries, such as x-rays and wireless telegraphy. Radiant energy was studied in the form of electromagnetic waves vibrating in the ether. It is possible to say, then, that thermodynamics developed alongside the knowledge of light and electromagnetism. Thermodynamics and electromagnetism fused in the nineteenth century as the most important notions about reality. Alberti's poems focus attention on situations involving energy concentration as well as dissipation, situations that relate to the poet's explorations of the creative process. With the exception of some poems written along the lines of avant-gardism, Alberti's preference is for scenes with human figures, embodiments of natural phenomena by which to explore the links between creativity, subjectivity, and the cosmos.

"AND MAY YOUR SEASHELL ROLL THROUGH THE SEA . . .": THE GYROSCOPE OF *MARINERO EN TIERRA* OR THE POETICS OF THERMODYNAMICS

Marinero en tierra contains poems that in thermodynamic terms could be called "dissipative," where the speaker articulates the dissipation of poetic energy due to the passage of time and distance from the childhood world, and poems that are "integrative," where the poet finds ways to bring together life experiences with art. The ongoing relationship between these tendencies is what Alberti might have had in mind when he first thought of calling this book *Giroscopio* (Gyroscope), but gave up on the idea because no one seemed to like it. For Alberti, "gyroscope" was a "word designating that spinning or humming top, striped with colors, children's delight" (*La arboleda* 156). In scientific terms, the "gyroscope" is a device invented in 1852 by Foucault to show experimentally the rotation of the earth (Larousse's definition). The word must have attracted Alberti because of its euphony and as an image for the turning and rotation involved in the creative process. The "gyroscope" is an iconic image for the vortex-like process that art and life are as they attempt to combine motion, color, sound, time, space, and energy.

The following analysis is based on the 1968 edition of *Marinero en tierra*, which includes illustrations by Alberti himself. At the time of the book's writing, the boundaries between poetry and painting were still unclear, as Alberti admitted in his conversations with Velloso: "I broke up with painting a little to strengthen myself as poet" (161).[2]

The fusion of poetry and painting, as well as that of land and sea reflected in the title itself—a sailor on land— is paradigmatic of what could be termed Alberti's gyroscopic perspective, meaning a worldview combining a diversity of elements with unclear boundaries. In *Marinero*, this worldview is often conveyed by images of periodicity and circularity, as in the ongoing movement of the sea and of the currents and waves the poet captures around him. As it pertains to his craft, it affects the image of poetry as a crystal vase in his early writings. On one hand, Alberti's crystal vase is the iconic representation of pure, nondistilled poetry, captured outside of history, fixed on the idealistic view of childhood; on the other, there is the dynamism of the world that he is experiencing in Madrid, exposing the crystal vase to all sorts of unexpected motion. It is telling that the collection opens with the dream of the sailor as a means to figure out how to reconcile different poles in his journey. Because of its placement at the very beginning of the collection, this introductory poem requires first attention.

In *Sueño del marinero* (Sailor's Dream 17–18) reality and poetry meet, for it is in the specific location in the shore of his bay that this sailor's poetic dream originates. This sailor dreams of traveling to extreme lands, going from the Apollonian Northern colds to the Dionysian Southern heats. His hybrid dream travels on a firm vessel devoid of uncertainty because it is guided by his love for a green mermaid. The motivating force for the journey, the green mermaid, lives in the sea shell the sailor carries deep in his chest, which doubles as the crystal vase of poetry. The dawn of a new day, that for the poetic adventure, is about to start. Dawn's light transfers to the sailor's forehead, the site of vision and imagination that the mermaid signals with her crystal hand, a transferal that is later referred to as "submarine nuptials" of sailor and mermaid or poet and poetry.[3]

The crystal vase of poetry has opened now to release the threads with which the poet weaves his imaginings. They are the green threads of the mermaid's mane, another version of the comet's tail containing cosmic energy. The sailor's poems will be his voyages riding on the lines of force, the hairs of this mermaid as the embodiment of poetic energy. The hybrid nature of the mermaid, half female, half fish, related to both ocean and earth, marks the equally hybrid poetic journey seeking to fuse ocean and earth, sea and sky, cold and heat, causality and synchronicity, art and life. When, following the mermaid's request the sailor lets loose the seashell in his chest, he is opening up his poetry to the world as a resounding chamber in which the currents and waves of energy may circulate.

Alberti's choice of the sea as the setting for his poetic dream is directly related to his biography, but it responds also to his attraction for the motion and the periodicity of cosmic rhythms in the sea, the sense that the universe is in a constant process of becoming, that life, in Bergson's terms, is a creative evolution.[4] Periodicity in art often takes a circular form, as explored by Apollinaire with his experiments crossing painting and poetry through typographical manipulations, circular forms, and an approach to aesthetics based on simultaneity, and by Robert Delaunay with his series of paintings called *formes circulaires* (circular forms). Waves also played a major role in Louis-Victor de Broglie's idea that the behavior of electrons was analogous to that of a fluid, and that their paths spread out in the form of a wave: "if electrons are liberated they will spill out in many directions, spreading about like the ripples on a pond" (Davies, *Other World* 63). In the sailor's dream there is a sense of embarking on the exploration of a new world on board a ship in direct contact with the cosmic energy but also exposed to the uncertainties of the sea.

Because of its inaugural placement, the first illustration in the book, preceding *Sueño del marinero*, is relevant as it conveys visually the first poem and likely the whole collection (figure 5.3). At the base of the drawing are three parallel lines suggesting the ocean; toward the right side there is a black spot, which could be the sun or moon, and birds are flying on the left side. The whole space is filled with spots or dots suggesting dynamism in the air; it could also refer to oneiric activity as it accompanies the poem about the sailor's dream. This simple illustration of a marine setting combines the elements

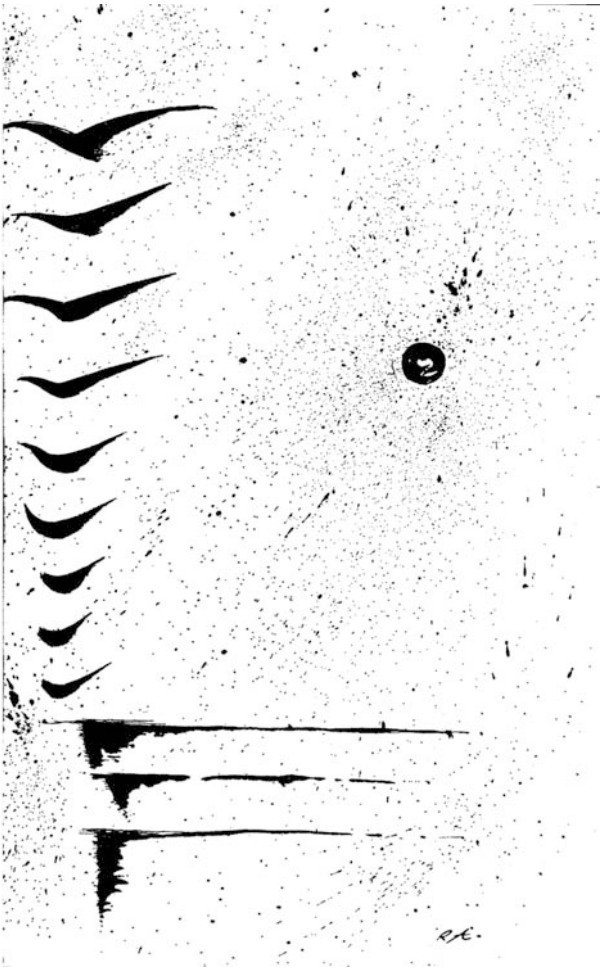

Figure 5.3 *Sueño del marinero* (Sailor's Dream), Rafael Alberti.

that are central in the book: birds flying free in open space, the ocean, the air/wind as space, energy, and motion, and the sun or moon. In other drawings, as in figure 5.4, the big black dot may be a star or a comet, most likely Halley's, as it precedes the poem entitled *Elegía del cometa Halley* (Elegy to Halley's Comet). In it, the lines depicting the sea acquire arboreal forms that appear electrified. There is great ebullience and resonance in this and other illustrations: the space conveys energy. Planes or birds and stars are also part of some of the illustrations and are generally done with vigorous, black, thick strokes. They

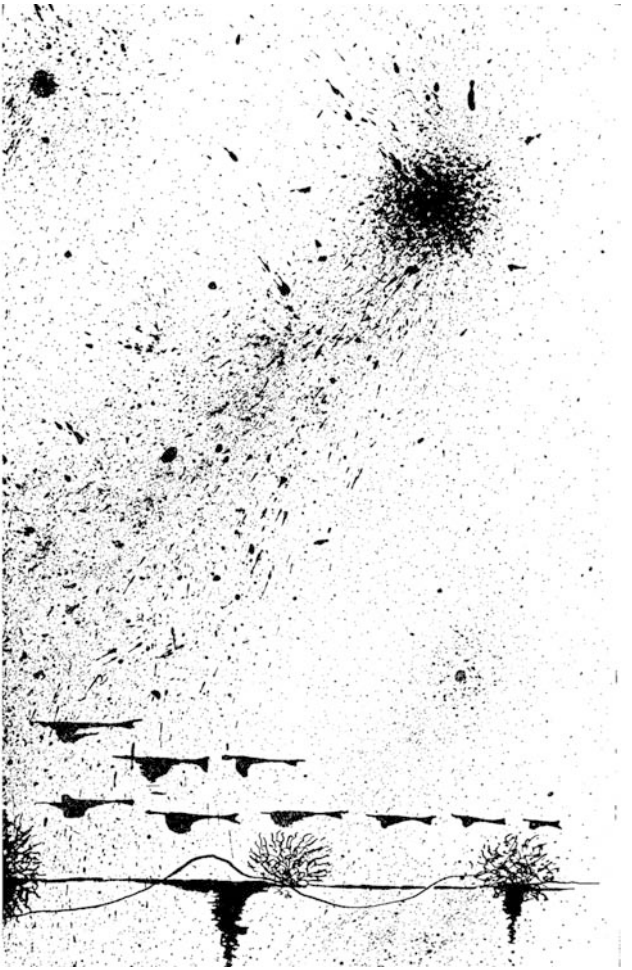

Figure 5.4 *Elegía del cometa Halley* (Elegy to Halley's Comet), Rafael Alberti.

usually convey scenes in the open air and include the sea, birds, sails, boats, sun, moon, and encompassing open spaces. Dynamism and light dominate.

Rosa-fría patinadora de la luna (Cold-Rose Moon Skater 39), *Malva-luna de yelo* (Mauve Moon of Ice 140), *A Rosa de Alberti, que tocaba, pensativa, el arpa*. Siglo XIX (To Rosa de Alberti Who Played the Harp Pensively. 19th Century 141), and *Catalina de Alberti, italo-andaluza* (To Catalina de Alberti, Italo-Andalusian 142) are four sonnets, a sort of gallery of four women, two invented, two real, chosen by the poet to embody his hybrid or circular view of the world and natural phenomena. In this way, each of the female figures embodies an aspect of the cosmos and the poetic process. Rosa-fría embodies pristine poetry contained in the crystal vase, which, exposed to the coming heat with the change of seasons and sexual desire, can no longer remain in its pure form and melts away. Malva-luna is the representation of Rosa-fría's death. While these two are creations of the poet's imagination, picture-like representations of his struggle to hold on to purity in the face of strong sexual urges and the passage of time, the women in A Rosa de Alberti and Catalina de Alberti are relatives of the poet. He seems to be looking at them in old photographs, or remembering these women in his family. By means of memory and poetic imagination, these old images become alive as embodiments and representations of the air and the sea, respectively. Alberti resurrects them by means of poetry and makes them be integral to the world around, just as in the first two poems he gave human form to natural phenomena.

These four compositions could be considered as studies of ways to reconcile poetic energy with the passage of time, the personal with the cosmic. Although the poet would want to hold on to his crystal vase of poetry, other forces are exerting their impact very strongly and threatening to dissipate the energy that the poet wants so much to retain intact. The first of these four poems acknowledges the effect of the excessive sun, with the subsequent dissipation of energy, while the second confirms a state of zero energy, when Rosa-fría dies, and the new energy emerging from it. In the other two poems, the process of imagining and creating is what brings the women in the old photographs to life. As zero-energy systems, these old photographs are reignited by the process of memory in poetic energy. Alberti's gyroscope is well represented by these four poems where, as in thermodynamic systems, the poet deals with the containment and dissipation of energy. Going from figures invented to embody natural processes (*Rosa-fría* and *Malva-luna*), to real women made to embody natural phenomena (*Rosa* and

Catalina de Alberti), the poet reveals the close, practically nonexistent boundary between the human, natural, and poetic realms.

Javier Herrero's detailed reading of *Rosa-fría* is a necessary reference for the understanding of this poem. As the critic explains, the poem "is a celebration of the birth of spring and, as such, it contains immense poetical echoes, related to love, art and creation" (99). *Rosa-fría* is an image of the moon turned flower and personified as a woman. It is also the embodiment of poetry as an ideal that is cold because of its purity, and that in the poem melts away because of time and sexual desires. The metamorphosis is represented by *Rosa-fría* as a skater, a human gyroscope dancing on a frozen pond or skating rink, a round scenario where the moon beams are reflected. As she "dances," energy concentrates until it reaches the point where ice turns liquid under the heat of the coming spring and of passion. The icy pond is a variation of the crystal vase of poetry discussed earlier; in it the skater is energy churning. As she pirouettes on the ice, her scarf and skirt whirl in the air in a graphic representation of her coming undone, as her contained energy is now spreading throughout the air in the waves of her turns and twists. The skater's skirt "gives a turn / of linen bell," which Herrero interprets as "an image of joy, of new birth, and, as such, a premonition of the triumph of the sun" (108). The sun triumphs, but at the expense of *Rosa-fría*, whose condensed form dissolves in currents and waves in the air. The crystal vase has been fractured and the poem is its *memento mori*. The skirt/bell finds a correspondence in the "bell glass" in whose light the frosted silence comes undone. As heat concentrates inside the vase, its silence, another way to refer to the frozen form of this pure, poetic energy, melts away in the form of waves as represented by the skirt twirling and her scarf curling up in the air.

Later, as in figure 5.5, lines connect a boat below with the level above, establishing links whose energy then disperses all around through wavy lines and pointillist-like dots. Placed between *El aviador* (The Aviator) and *Nana del niño muerto* (Lullaby to the Dead Child), this illustration suggests the dissipation of energy. Concurrent with the cosmic phenomenon of the change in seasons, Alberti breaks the crystal vase of his early, innocent poetry. The solidity of its form turns fluid; its rigidity becomes wavy. The poet says goodbye to his youthful belief in the integrity of forms giving way to a worldview where bodies are malleable and almost slip away through one's fingers. In this illustration, the boat of the poet's imaginings, endowed with seeming wide-open eyes, appears like a child's toy that is lost in the middle of forces difficult to control. In turn, in *Rosa-fría*'s poem,

Figure 5.5 *Nana del niño muerto* (Lullaby of the Dead Child), Rafael Alberti.

the scene is filled with thermodynamic energy: the breaking of the ice is created by the increasing heat that is reflected in the whirls in the air, and in the *estrías* (striations) caused by the cracking of the ice. Paradoxically, the entropy of this phenomenon becomes the source of creativity in the coming of spring and in the poem at hand. Thermal dissipation, which Prigogine and Stengers study, is described with Alberti's term *destejido* (unraveled), as a potentially creative process (*Order out of Chaos* 292). Alberti intuits in his poetic process, in this early book and much more elaborately in *Sobre los ángeles*, what

scientists such as Prigogine would later term chaos theory. Alberti's poem represents the dissipation of energy from what it was—a closed system—due to the catalyst of the sun. In other words, the sun causes a sort of Brownian motion cracking the solidity of the ice. As the silence comes undone, the silence that held the system closed in and tight, the crystal vase starts to break. The "goodbye" reflects the dissipation of the energy as the sun chases after Rosa-fría.[5]

Malva-luna presents the aftermath of *Rosa-fría*: her color red has turned mauve to reflect her loss of vitality. However, it is from *Rosa-fría*'s death, as she lies down on the snow, that new life emerges with the coming of spring, as her "blossoming back" attests. In this poetic embodiment, the opposites of death and life, cold and warmth overlap. Her ivory hairs are the moon beams spreading in the air as they come undone from the melting figure. Simultaneously, thought, or mental matter, compared to the silvery, metallic-like halo in the air when it rains, is like dead water on the figure's temple. There are other emissions or emanations from this figure: a clamor from her small breast, her breathing emerging like a solitary palm tree in the air, and the icicle of her foot still fastened to the sky. All these elements create a spectral vision of this figure, a sort of x-ray version of what once was. On the cold tray of the night, as she lays extended on the water of her own melting, she looks like a crucified figure, while dawn emerges from her cold breasts: the new day emerges from death. Her legs are like celestial rivers because they flow as the melting continues, and the overall image emerges from under the poet's tears. This poetic version of the natural phenomenon of seasons and time comes straight from the poet's imagination. As she melts away, so do the poet's eyes, which shed tears as bitter as the sea. The dissolution of the crystal vase of poetry in the melting of *Rosa-fría* and the death of *Malva-luna* corresponds to the poet's tears flowing through the lines of the poems. Entropy is the source of new creation.[6]

In figure 5.6, an illustration following the poem *Madrigal de Blanca-Nieve* (Madrigal of Snow-White) and preceding *"¡Por el mar, la primavera!"* (Through the Sea, the Spring), the scene is also connected with the previous poems as it seems to encourage the poet to move forward, for if Rosa-fría and Blanca-Nieve, also, are melting away, spring is coming on their heels. The drawing shows a boat, a common image for poetry, with round, inflated sails. The boat crosses waves painted in thick, black, violent strokes. The reason for the intensity of the work may be due to the wind that seems to be tilting the boat and inflating the sails to a point of almost bursting. Just as *Rosa-fría* could not hold up to caloric energy, this boat seems to

Figure 5.6 *Por el mar* (Through the Sea), Rafael Alberti.

be caught inside a vortex of energy. That may explain why at the edge the sails have dots that look like eyes from which fine threads sprout out in an electrified way. From their startled expression the intensity of the scene is made clear. In figure 5.7, a similar illustration of sea waves, together with spirals wrapping around a vertical line, suggest sails turning with the wind; what looks like hairs or fine threads refer to the mane of the sea turned into a horse. That's what the main configuration in the center looks like, the sea becoming a horse or vortex of energy spiraling upward that the poet wishes to ride, as he expresses in the poem following this illustration.

Figure 5.7 *Quien cabalgara el caballo* (Who Would Ride the Horse), Rafael Alberti.

A Rosa de Alberti is the third sonnet in this group, this time addressed to a person, a cousin of the poet. She is seen on the heavenly balconies striking the air as if it were a musical instrument; in the second quartet the air she plays is a harp, which is also the balcony she leans on. *Rosa de Alberti*, another embodiment of poetry like *Rosa-fría*, inhabits space where she is the interpreter of cosmic harmony. Her hand, playing the cosmic music, "was turning green—algae in threads." The green coloring in the hand may be due to the aging of the photograph paper the poet is holding,

although it may suggest the opposite phenomenon: the greening of the hand, its music, and photograph as they are recreated in the poem under the eyes and words of the poet. The poet describes her as filled with softness and carmines, as a bell glass of dreams, as a vague and ethereal figure. *Rosa de Alberti* is yet another version of the crystal vase of poetry that has opened and now spreads from the high balconies in heavens all over space. The poet urges us to admire her as the cherub among cherubs, as the musician in the garden of space. The sonnet concludes with the line: "Pensive of Alberti among the flowers." This reference to thought recalls *Malva-luna* whose thought was dead water in the temple. Both references suggest that they are the product of the poet's imagination, of his conscious mind giving them life, hence she is *Rosa de Alberti*. By remembering a relative, or by inventing a figure, Alberti gives concrete form to his poetic process while asserting his agency. He is also taking ownership of the surrounding space for if time disperses his crystal vase of poetry, as poet he can make that vase encompass the totality of space.

Figure 5.8 shows ethereal balconies suggestive of *Rosa de Alberti*'s sonnet and the poet's own balconies, as stated in the poem following this illustration. Balconies or windows are indicated by intricate drawings of iron gates; framing these designs, the rail is not straight, but curved as though it was being bent by the air or by standing on nonsolid, gravity-free grounds. Besides the curved lines, there are others that are straight, angular, square, suggesting the front of a house. Above what appears to be the front door, the intricate iron rails call attention to the curvy shapes. At the very top, there is something that looks like a flag flying free from one of the sides of the balcony; it must be the flag the poet claims as his own in the composition preceding figure 5.8. Here, as in the poems, balconies are breathing spaces for the inhaling and exhaling of creative air, *torres de vigía* (watchtowers) for the boat of creative energy. In figure 5.9, the drawing shows a big L-shaped form toward the left in white, while the space inside the angle is black. The contrast between the two creates an interplay between figure and background, which could suggest day and night, or a window looking out into the night. It could be a balcony whose gate is painted in the lower part as a horizontal line with edges. Inside and outside seem to fuse. The spiky forms coming out from the black, which seems to be a starry night, look like the tails of comets or some other luminiferous bodies. These two illustrations emphasize openings into space. In the sonnet, looking at

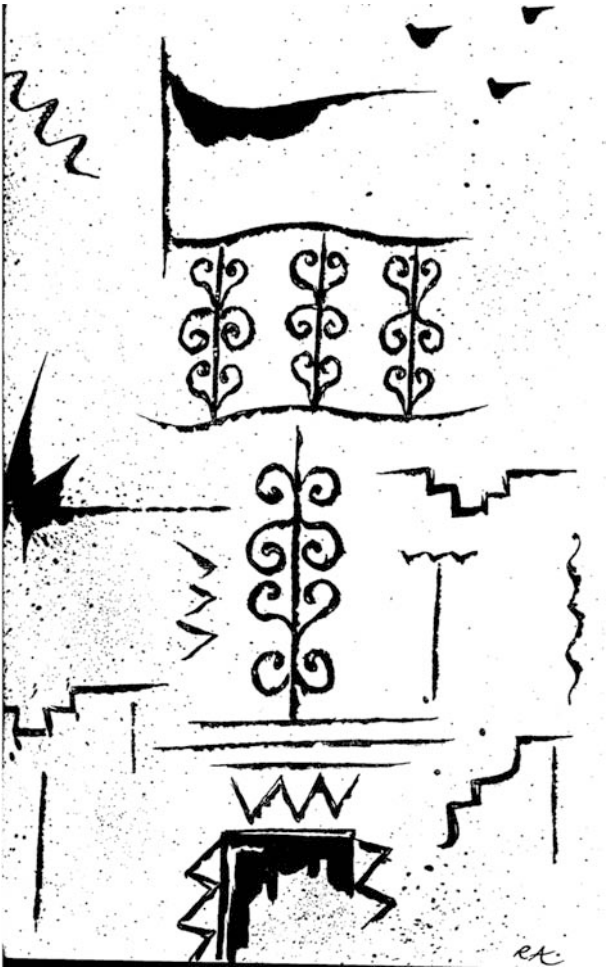

Figure 5.8 *Los balcones de mi casa* (The Balconies of My House), Rafael Alberti.

a photograph or remembering injects life into the woman. And it is poetic energy that stimulates the aging vase where *Rosa* was languishing. According to John Tyndall, as waves propagating the vibrations through the ether enter the pupil of the eye, "[they] cross the ball, and impinge upon the retina." After the motion has affected the retina, it goes up to the brain via the optic nerve. It is in the brain where it "announces itself to consciousness, as light" (cit. Clarke 22). A similar

Figure 5.9 *Nana de negra flor* (Lullaby of Black-Flower), Rafael Alberti.

process seems to have occurred with this poem: as the poet looks, the photograph *se entreabría* (was opening up) so that the harp the cousin may be holding becomes that of the cosmos (second stanza). She then undergoes a gradual transformation into an ethereal being, double of the crystal vase of poetry in the poet's imagination (first tercet), ending with her complete transformation in the creation of the poem, angel of the cosmic world of the poem. That Alberti chose to revive his cousin in this poetic way seems related to his desire to establish his poetic genealogy or pedigree: his cousin is the rose or

poetry of space and it is from her that he connects with the energy in the air.

Rosa de Alberti is another one of this poet's creations, embodiment of the energy in the air, sound, and light. In this sense, there is not much difference between Alberti and what led Maxwell in the nineteenth century to recast Faraday's early field conceptions into an ether theory of electromagnetism, in which "lines of force" are conducted through some form of rotatory and elastic medium, the ether. In order to interrelate the phenomena of electricity and magnetism, and then of electromagnetism and light, Maxwell developed a series of ether hypotheses, the most important being the vortex-and-idle-wheel model elaborated in his essay "On Physical Lines of Force" (1860–1861). Maxwell's ether fictions point to a convergence with "symbolic processes at large in literary and artistic production." As Clarke explains, in the early studies of energies, "Maxwell's diagram of the impalpable and elusive ether was . . . a heuristic construction or work of intellectual scaffolding representing something complex and invisible." Alberti's ethereal cousin responds to a similar need to create representations of hypothetical identities, a conceptual instrument that "constitutes as well as simulates the world" (22–23).

The same applies to *Catalina de Alberti.* Just as *Rosa de Alberti* inhabits space, *Catalina* inhabits the sea. The speaker never met her, although he senses her being of mother-of-pearl, foam, and sand. Alberti is transforming his family members into embodiments of cosmic energy: if from *Rosa* he received the spatial dimension of his poetry, from *Catalina* comes his attraction for the sea. This portrait, as the poet states clearly, is not based on any realistic depiction but on his imagination whose power injects life into the memory of this relative. These four sonnets offer different versions of the same theme, how to interpret poetically natural phenomena, how to make the crystal vase of poetry encompass the world. The poet's presence is felt in each of the poems, either by means of direct references—to the poet's tears, for instance—and by references to his thought as the activating factor for these imaginings.

Marinero en tierra deals with a plurality of elements coming together in gyroscopic turnings: land, air, sea, the poet, the world, life, and art. The crystal vase of poetry has been rolling in the seas, its creative energy being dissipated and becoming one with natural phenomena. His poetic recreations—*Rosa-fría, Malva-luna, Rosa*, and *Catalina de Alberti*—are embodiments of poetic energy in the cosmic scenario. Alberti's poetry represents the creative rendition of cosmic energy. His illustrations are also filled with circles of energy,

poetic ships in motion, and with the interconnectedness among the different levels of reality. These poems could have been called gyroscopes—as Alberti first intended—because they convey the whirls and turns around the poetic and the cosmic.

However, in the long run, it does not seem that the formula worked because the sailor dies at the end. *Funerales* (Funerals 120–121) consists of seven quatrains of eight-syllable verses with consonant rhyme. It opens with a call to fishermen, women sailors, and sea gardeners to express their sadness because of the sailor's death by hoisting colorless flags. The speaker's desire is to open the floodgates and let the tears roll. The last two quatrains are filled with pathos:

> It rains on the water, it rains
> black snow of cold algae.
> Among snow glaciers,
> my tomb, open.

Rain on water is useless and the scene suggests the grotesque reversal of the pure crystal vase of his youth.

One would surmise, then, that his efforts to let air in and out, to measure feelings with form, to strive for the fusion of poetic and cosmic energy have not yielded the desired results. The poet's tomb is a return to snow that has lost its original whiteness and contains only the deadly cold of silence. The poem concludes with two dismal lines: "Amidst extinct lampposts / my funerals sink." The *verbena* (party) is certainly over and the many lights guiding his journey, like the fireflies he used to catch as a child, are no longer lit. The crystal vase of poetry is a cone of extinct light. *Sobre los ángeles* is the voice coming from this black hole.

CREATIVE ENTROPY IN ALBERTI'S *SOBRE LOS ÁNGELES*

The artist in Goya's *Capriccio*, *El sueño de la razón engendra monstruos* (The Sleep of Reason Begets Monsters), has fallen asleep; his working tools lie on the table while bats and owls fly agitatedly around his head. Are they the creatures of an imagination gone astray or are they the vices of society that Goya's artist, with the sharp-eyed lynx at his side, will denounce? Whether we accept either or both of these interpretations, the flying creatures are ominous and tormenting for the artist, just as the many and different angels are for the speaker in Alberti's book *Sobre los ángeles* (On the Angels;

1927–1928).[7] Stemming from a deep personal and artistic crisis, this highly complex book is strikingly different from Alberti's previous works. The images and themes of *Marinero en tierra* undergo a radical reversal in *Sobre los ángeles*: the ideal constructions supporting the world of childhood have been shattered, transparency in relation with the world turns into opacity, and certainty becomes unpredictability. The sailor crossing the seas in fusion with cosmic energy is now in a quagmire unable to connect with the world because language, which seemed to flow so easily in the popular style of early poetry, has turned into an ax cutting all possible links. The energy of the cosmos infusing the sailor's imagination has suffered a short circuit carbonizing and calcifying life. Like Goya's bats and owls, Alberti's angels are energy gone awry.

Sobre los ángeles emerges from catastrophe at both the personal and artistic levels. As possible explanations, critics often refer to Alberti's own account of his crisis in his memoirs, identifying its different sources, primarily his tumultuous relationship with painter Maruja Mallo; his rejection of the religious education he received from childhood; as one more manifestation of the overall crisis of Modernism that other writers, Alberti's contemporaries, also experienced; and as part of the social and political crisis in Europe and Spain during the first decades of the twentieth century.[8] These are all valid explanations for the state of exile of this poetic speaker who around him can only hear the cracks of a decaying world, and wonders: "Why continue the journey?" The angels, who at one point were tutelary presences and carriers of messages from the above, are now flying in a sleep-walking state (*El ángel falso* [False Angel] 570). Instead of the orbits of stars and constellations, angels are now flying in "the orbits of fatigue," the new star in the horizon of expectations.

There is, however, another area that these studies have not examined in which radical changes were taking place, physics. Considering the focus placed upon the material, physical reality in Alberti and his generation, and the predominance of images of a decaying natural world, this section proposes a reading of Alberti's book by establishing an analogy with chaos theory, not simply as another discourse or vocabulary but because the properties found in physics' theory of complexity are also found in *Sobre los ángeles*.[9] Since chaos theory clearly developed after Alberti's life, its use as the lens through which to read his *Sobre los ángeles* suggests the poet's intuition of this later scientific development; it is also a way to elucidate further a poetic book by profiting from the enlightenment provided by more recent scientific theories.

Sobre los ángeles articulates the speaker's crisis via images of seismic, chemical, and cosmic destruction, which, as poet, Alberti confronts in terms of language. Just as the Newtonian model no longer sufficed to explain the world, the worldview and language that served Alberti's previous works are no longer sufficient to articulate the experience of crisis in the more mature poet. A change of this nature, known in chaos theory as a "bifurcating point," has two possible outcomes: final destruction in "heat death," if energy keeps dissipating as the second law of thermodynamics predicts, which would correspond to silence in poetry, or a new kind of order and creation coming out of the chaos, what Nobel Prize winner Ilya Prigogine has called "dissipative structure."[10] As this section will illustrate, the physical reality of the book *Sobre los ángeles* is the literary equivalent of a "dissipative structure" as it articulates the poet's personal and artistic "dissipation" into a new form of creativity.

Studying the anxiety poets experience vis-à-vis their precursors, Harold Bloom talks about a catastrophe theory of creativity: "any adequate theory of poetic creativity also must be a catastrophe theory. What is called creation, in art, is both a creation *of* catastrophe and a creation *by* catastrophe" (*Agon* 73). Bloom refers to the young poet's state of anxiety as a sort of misprision or *clinamen*, a term coming from Lucretius's *De rerum natura* referring to a stochastic swerving or "random fluctuation" where atoms begin to collide with one another producing a vortex or whirlpool, which heralds the beginning of a new world.[11] *Sobre los ángeles* may be viewed as the structuring of such vortex or whirlpool where poetic atoms coming from different sources collide with one another, producing out of such collision a new kind of poetic vision. The main collision in this book occurs when the poet confronts the dismantling of his romantic ideals and personal and artistic goals. Alberti identifies Gustavo Adolfo Bécquer (1836–1870), the romantic paradigm par excellence, as the main point of reference for his crisis, not as an attempt to bring back romanticism and its ideals but as a "technique for mastering anteriority by *remembering* rather than *repeating* the past" (*Agon* 110). Bécquer's line *Huesped de las tinieblas* (Host of the shadows, from "Rima LXXV") serves as the title for the three sections of the book, a persistence that indicates there is no linear progression from section to section, but rather a deepening of the darkness or nonequilibrium state threatening to drown the poet. Insistent and repeated commands and apostrophes are the strategies to call attention to the chaos or fracturing of official constructions. Like the uncertainty principle in modern physics debunking the ideal constructions in Newton, Alberti's poet

calls attention to ugliness and disorder as intrinsic to the world. His new voice emerges from the knowledge that rupture, as deconstructionists would claim, is at the core of the message of sameness coming from traditional systems.[12]

Sobre los ángeles effects a swerving where the entropy caused by the failure of romantic dreams forms the stuff of a new creation stemming from awareness of the chaos and, also, of the rhetoric involved in its voicing. The apostrophic mode in the speaker's constant and insistent calls to remember, to listen, and look carefully brings attention to the poet's presence debating with the personal and creative drama in his own mind. *Sobre los ángeles* is thus a treatise on the angels of artistic inspiration and on the new messages that can be woven out of their disarray. Like Bloom's strong poet, Alberti's speaker in the state of *clinamen* acknowledges to have fallen: "'I seem to have stopped falling; now I *am fallen,* consequently, I lie here in Hell,'" but he is thinking, as he says this, "'As I fell, *I swerved,* consequently I lie here in a Hell improved by my own making'" (*Anxiety* 45; emphasis in the original). Just like a rocket that has been fired upward from earth and then falls by the force of gravity, Alberti's speaker, who started his poetic journey riding on the comet's tail, has been crushed: "All is finished. / You can swell with pride, on the withered tail of drowning comets," this he admits in *El ángel falso* (False Angel 571). The poet knows that he is only one more in the long line/tail of poets preceding him and confesses that "finally we are going to drown" (*Los ángeles feos* [Ugly Angels] 576). But he also knows that *Sobre los ángeles* represents a departure from previous writings and precursors. Alberti's book swerves away from romanticism implying that the "precursor poem went accurately up to a certain point, but then should have swerved, precisely in the direction that the new poem moves" (Bloom, *Anxiety* 14).

Energy was a popular topic in modernism with light and motion as its most common forms; Alberti's angels are the poetic version of this concern with energy. The importance of electricity in authors has been widely recognized in critical studies. In the introduction to a seminal collection of essays on the topic of energy and information, Clark and Dalrymple Henderson trace the role of energy from the nineteenth to the twentieth century. This interest in energy stems from the research since the nineteenth century on thermodynamics, which would congeal in the modern notion of energy and in chaos theory. Heat and radiation took over the monopoly that material bodies and mechanical forces had held in the field of physics since prior to the nineteenth century (Clarke, "From Thermodynamics" 21). Thermodynamics,

which developed alongside the knowledge of light and electromagnetism, brought forth chaos in the orderly world of classical mechanics where thermal factors were not included. The conceptual development from the theory of *caloric*—"hypothetical fluid presumed to carry heat and to be conserved throughout its cycle"—to energy developed the first law of thermodynamics—that energy is conserved through its transformations: the sum of energy in the universe is constant. The second law, however, determines the dissipation of mechanical energy, as stated in William Thompson's (Lord Kelvin's) paper of 1852: "On a Universal Tendency in Nature to the Dissipation of Mechanical Energy" (Clarke, "From Thermodynamics" 19–20). This irreversible loss of energy was consolidated in the term "entropy" coined by Rudolf Clausius in 1865 as "transformation-content." Contrary to Newton's orderly cosmos, thermodynamics brought a dual logic oscillating between order and randomness. The second law addresses the dissipation of mechanical energy, the entropy, leading to grim results for the universe, the "heat death" that the media publicized widely at the time. Thermodynamics and electromagnetism fused in the nineteenth century as the most important notions about reality.

Austrian physicist Ludwig Boltzmann developed a statistical analysis of thermal entropy.[13] Prigogine discusses the importance of Boltzmann's probability distribution because it gives us "the basic principle that governs the structure of equilibrium states"; he calls it the "*Boltzmann's order principle*" (*From Being to Becoming* 81). However, Prigogine and Stengers recognize the coexistence of nonequilibrium structures alongside Boltzmann's order principle from which a new kind of order or creation may emerge (*End of Certainty* 70). Herbert Spencer (1870) introduced a new principle of nature called the "instability of the homogenous" or "differentiating force, creator of organization," which for Prigogine proves that disequilibrium may lead to a new order that he calls the *dissipative* structures. This new type of structure is essential "in the understanding of coherence and organization in the nonequilibrium world in which we live." Dissipative structures imply the destruction of the homogeneity of space and time (Prigogine, *From Being to Becoming* 84, 104).

It is telling that Alberti would choose angels to embody the disarray he was experiencing in his cosmic and artistic vision. Angels are spirit-like creatures, celestial as well as demonic, traditional embodiments of air, energy, and inspiration. As messengers and protectors, angels are well-known figures for anyone with the kind of religious education Alberti received at the Jesuit School he attended as a child in Cádiz; the Annunciation motif appears frequently in his early

poetry.[14] These angels follow on the footsteps of the creatures (mermaids, dolphins) Alberti developed in *Marinero* as embodiments of creative energy. Reflecting here his personal and poetic turmoil, these angels are not beautiful and beneficial creatures, but ugly, vicious, and even stupid, and their flight pollutes the poet's city of the air (508–509), the space of imagination. Space and air, which in *Marinero* correspond to an electromagnetic field traversed by the energy of the mermaid's mane and the sea algae, are now filled with smoke because energy has combusted. Alberti's book, as the title indicates, is a treatise "on the angels," a topic on which a great deal has been written, except that these are angels who have fallen from their celestial abode and fly confusedly, dissipating information energy in all directions.

The determining factor in the change the poet has experienced is identified as *El mal minuto* (The Bad Minute 556), a short period of time but with chaotic effects because it marks the temporal point when the speaker was betrayed:

> When wheat fields were for me dwellings for planets and gods
> and dew was the frozen tears of a gazelle,
> someone plastered my chest and shadow,
> betraying me.

The betrayal reversed the spaciousness and porosity of his worldview, expressed in the continuity of the imperfect tense *–eran-* (were) to a reality of hardening lime, the decisive blow of the preterit *me enyesó* (plastered me). His world has been turned upside-down. He no longer is the *poet-magus* intuitively interpreting the analogies in the world, for his romantic view of the interconnectedness among the different levels of reality has been blocked with white, hard, impenetrable *yeso* (plaster). As the mere fluttering of a butterfly's wings may have serious repercussions in some distant part of the world, as chaos theory establishes, the brevity of this minute is contrasted with its radical effects.[15] In just that one minute the air became filled with lost bullets, poetic flight was sequestered, telegrams announced ominous news, blood erupted, and the water died as its power to reflect the sky ended. This reversal of any romantic expectation of spontaneous and open connection with the world is synonymous with the dissipation of energy: ice and snow, which in his youthful world contained pristine purity and innocence, have melted with the heat of ill-directed passion; the crystal-urn of his poetic imagination has broken apart and its energy dissipates.

The "bad minute" corresponds to the "bifurcating point" in chaos theory, and *Sobre los ángeles* itself is a "bifurcation point" in Alberti's writings. A "bifurcating point" represents "a system-shattering moment when the previous simpler organization can no longer support the intensity or frequency of its own fluctuations, and either disintegrates or jumps to a new level of order and integration" (Porush 68). It is the starting point for a dissipative structure where the system reaches a new level. In Alberti's poetic system, *Marinero* represents the construction of an ideal, submarine world infused with creative energy. When this imaginary creation and its mythology are no longer sufficient to face the reality of time and emotional betrayal, the world falls apart and entropy prevails. Time as a cyclical, periodic process that the sailor found in the rhythm of the sea confronts the reality of its irreversibility; likewise, nature displays the signs of decay corresponding to the poet's own discomfort with his artistic prowess. From *Marinero* to *Sobre los ángeles* a thermodynamic world of becoming has taken place.[16] Fluid images become calcified and carbonized, water turns into acids, and crystal dissipates. As the poet admits, the reason for this poetic journey has been the ugly angels who sleep "in the luckless fumes of swamps" (575). He recounts in detail the failure of their transcendental flight in images where bad chemistry destroys natural beauty: "The moon, bitten by nitric acid, falls down / in the puddles where ammonia tightens the greed of scorpions."

As part of the overall chaos, Alberti notes the ecological destruction brought about by ill-directed technology and urges us to pay attention and face chaos up front: "See, Look at this, Look at this also." Systems of absolute beauty and perfection can no longer be invoked in view of prevailing chaos. Language's inscription, as the insistent commands show, corresponds to dissipative structures in chaos theory, "self-organizing systems that locally contradict the second law of thermodynamics" (Porush 57). Dissipative structures seem to have a mind of their own, as Porush notes, comparing them to a "*raft* which floats inexplicably but definitely upstream, *against the current,* gathering flotsam and organizing it into its flotilla with some sort of autonomous force or direction" (emphasis in the original). As in this description, Alberti's poetry is an unstable raft navigating through the chaos it articulates in the irrationality of its imagery associations and the vision of the underside of conventional order. As the book itself shows, "heat death" or the silencing of all creative energy does not occur, for in *Sobre los ángeles* confusion becomes the "stuff" for a new sort of creation.

Instead of the analogical approach to the world in romanticism, difference and disruption via memory constitute the ground for a new poetic structuring. Memory reflects back on past experiences and, with the distance afforded by time, notes the rupture already inscribed in their apparent fullness. "Remember"—urges the speaker of *El ángel superviviente* (The Surviving Angel)—"The snow was bringing drops of sealing wax, melted lead / and the cunnings of a little girl who has killed a swan" (577). The innocence implied in the snow and child was already marked by signs of hardening and contamination while the ideal *niña* (girl child) of the romantic, modernist tradition is also the murderer of the swan, the image of beauty and refinement. As Bloom notes, creativity thus emerges from a negative moment that recognizes, in turn, similar negativity in previous moments, in this case in the idealizations of romanticism (*Agon* 98). Remembering brings thus a new knowledge or its equivalent in a new creation stemming from personal and artistic self-awareness: " When a shadow gets its nails caught in the door hinges / or the frozen foot of an angel suffers from the fixed insomnia of a stone, / my soul unknowingly improves" (*Los ángeles feos* [Ugly Angels] 576). The swerving from the romantic worldview of analogy is embodied by the one surviving angel who "wounded, wingless" (*El ángel superviviente* 577) emerges from the destruction. Alberti's book is the voice of this one wounded angel, the image of the wound of a language irreparably distant from the soul of the world; this angel speaks the language of rupture and difference. His is also the last human voice that "stained the wind with blood" because the mystic union with the cosmos desired by the young, romantic poet has failed. Rupture implies loneliness but also the individuality of a personal creation.

The Miltonian echoes in the title of *El paraíso perdido* (Lost Paradise), the introductory poem (499–500), state the loss of a poetic abode whose well-established models provided security. Like a dynamic system whose original organization no longer works when shattered by some drastic and unexpected event, the experience of betrayal has shattered the speaker's original system of beliefs, leaving him in a state of total loss and desolation. Like an insomniac, he travels through centuries in a confused search because it could be a "you" of love or poetry he seeks, although it remains unidentified or, most likely, the sign of "radical interiorization and solipsism" (Culler 146). He calls for his tutelary angel to wake up and lead the way back to the lost beginnings, but the angel is dead. When he wonders about Paradise, the ideal world about which he has heard so much, the answer is total silence. In this critical state, his wanderings face

a bifurcating point: they may engulf him in the surrounding silence, the equivalent of heat death, or they may lead him toward the structuring of his present state of dissipation. His voice calling for the lost paradise and for the angel to wake up, in spite of the overwhelming silence and destruction, is the "ship" he needs to travel upstream, making motion possible by gathering the debris of his romantic dreams in a new form of articulation. However, he is aware of the fictive, rhetorical nature of his commands and knows that he may be reduced to being "without light forever."

Chosen as the opening, this poem presents crisis and rupture as the site from which the new, dissonant voice of this book emerges. The elements fight against each other (*El alma en pena* [Soul in Torment] 544); the world has suffered "Seismic lashings," and cosmic harmony is in shambles: "Celestial catastrophes throw debris onto the world, / broken wings, lutes, harp strings, / remains of angels" (543). To "enter" *Sobre los ángeles* is to access a space of shattered idealism and the ruins or ashes of conventional views and language. Winds blow at crossroads with the poet as a tower in the middle with no command over the unruly surroundings (*Los ángeles bélicos* [War Angels] 513). Living in "a black hole / of humidity / through which nothing is seen" (508), the poet's words no longer connect with reality because in the present situation away from romantic ideals, they are false crystals. The whole city of energy and incandescence he carried inside collapsed because dark, choleric angels carbonized his dream (508, 509).

In *Engaño* (Deceit 532), an unidentified presence follows the speaker covering his vision with words and language. Is it the romantic precursor and his idealizing systems still affecting his own vision? The "deceit" in the title may refer to the falsity of those systems of meaning for he recognizes that his previous dreams, or the models and precursors he admired, are "false crystals," a blind voice of false promises moving along a gold tunnel "of bad mirrors / with death behind / in a subterranean." In *El ángel envidioso* (Envious Angel 535), words are cutting axes and language is an avaricious catalyst attracting everything to itself. The self-reflexive nature of this new language is a source of mistrust because of its distance from any solid reality. He is undecided as to whether he should disregard it—that "gold tower" of language—or pay attention to it, whether he should ask others who were equally attracted by it or rather listen. His nondecisiveness departs radically from his earlier convictions; it also articulates the bifurcating point between silence or a new kind of semiosis.

In *Los ángeles sonámbulos* (Sleepwalking Angels 547), the setting is the "bedrooms" where the poet sleeps or dreams as the "sleepwalking angels" fly around. The walls of the room are pierced by invisible eyes and ears, reminiscent of Dalí's oneiric sequence in Hitchcock's film *Spellbound*, and possible representations of all the names and words from previous writers crowding his language.

Section three opens with *Tres recuerdos del cielo* (Three Memories from Heaven), a homage to Bécquer, the romantic poet who lamented language's insufficiency to convey the intensity and complexity of emotions, and the irony of irreversible, personal time versus the eternal cycle of nature. The *Prólogo* (Prologue 551) to this section evokes a celestial time prior to the loss of innocence, a time when the rose had not yet achieved its status as paradigm of poetry, beauty, and perfection, nor had the equally paradigmatic Gabriel marked the beginning of the Christian era by his announcement to Mary. This time corresponds to a physical system of simple organization, which excludes disjunction in language; to the distance of word and object; and, in the self, to pain and suffering. The three *recuerdos* (memories) following the prologue develop three pillars of romanticism: the ideal woman, the first meeting, and the first love, three paradigms sharing their original and unrepeatable character. Alberti's poet, however, can no longer dream of uniqueness in love when lust is setting urgent demands. Nor is language the original medium of each poet but a system carrying long-standing, repeated traditions. This trinity of memories, the proto-history in Alberti's personal and artistic religion, is now an icon from a past no longer viable in the present situation.

The knowledge acquired in his fallen state reveals the drastic changes that have occurred in the established order of things. Because of being in hell he knows that change is part of life ("I did not know that doors changed places"), that body and soul do not constitute a harmonious entity ("that souls could blush about their bodies"), or that "at the end of the tunnel light would bring death." Traditional models have insisted on denying these realities or chastising their mere consideration. In spite of the rupture involved in the dismantling of idealizing systems, the poet urges us to pay attention and listen because "there is always a last one after the fall of the waste lands" (569). Teleology is not definitive for there is always hope in the possibility of creating after everything seems lost. By listening and remembering the poet wants to bring awareness that small causes, like the flapping of the butterfly's wings, may have great effects: "a child's crying affects the constellations" (569). To counteract the petrifying

of language by tradition, the poet urges us to go beyond the apparent uniformity and uncover life under the wax-sealed messages:

> Look, look for them:
> underneath the drop of wax that buries the word in a book
> or the signature in one of those corners of letters
> that come rolling with dust. (*Los ángeles muertos* [Dead Angels] 574)

The experience of chaos has brought forth the questioning of myths of static symmetry and fixed order: "But I tell you: / one rose is more rose when inhabited by caterpillars / than on the withering snow of this fifteen year old moon" (*Los ángeles feos* 575). Goya feared that the owls and bats of retrograde and superstitious beliefs would threaten the clarity of truth. Likewise, Alberti's angels reveal the inadequacy of artistic, religious, and social codes that tradition had enshrined. Time and personal pain do destroy the angels of childhood dreams but the surviving one, although "wounded" and "wingless," lives on (577). Also called the *angel ceniciento* (ashy angel 520), his voice emerges from the ashes of past dreams and the knowledge of limits, unpredictability, and difference. The linguistic incidence, interrogation, and apostrophic appellation of *Sobre los ángeles* mark the writing of error as a swerving from established order, but also of knowledge of a new sort, the knowledge responding to the complexity of the viscous, self-reflexive world of relativity, quantum mechanics, and chaos.

Chapter 6

Concha Méndez: Poetry of Energy, Poetry as Energy

Concha Méndez, with the gestures of a hefty young man and magnificent agility, moves levers, places and removes papers and fastens screws. And around us everything vibrates.

—Morla Lynch 241

This portrait is paradigmatic of the image that has come down to us of Concha Méndez as an energetic, multitasking woman in close contact with her own body. She was a "modern" woman who practiced sports, who dared to write, and who defied the expectations of her bourgeois family by leaving home and traveling on her own, and by befriending people quite unconventional for her social milieu. Neither in her life nor in her work did Méndez take notice of the distance traditionally established between physical and intellectual activity, the body and the spirit, surface and depth. Similarly she ignored the gender split between the domestic (female) and the public (male). In agreement with the Bergsonian disregard for the old division between mind and matter (Carr 55), she perceived her bodily and mental energy as a whole: what is visible on the surface corresponds to what is experienced in depth.

Concha Méndez's declared passion for physical activity went hand in hand with writing, a blending that the title of her memoirs, *Entre el soñar y el vivir* (Between Dreaming and Living), also emphasizes. The common tendency to associate creative activity with dreaming,

the imagination, and fantasy is in Méndez synonymous with living, a fusion that often translates into a poetic style that is much more direct, less "artistic" than other writers in her generational group. Because of this, and also because she was a woman, critics have paid much less attention to her than to other poets from the same period. Unconcerned about anxiety of influence, Méndez seeks above all to render life and energy in writing, particularly in the works from the first period of her life preceding her exile after the Spanish Civil War. The attention to energy, in the life of the speaker herself and in her surrounding world, will be the focus of this chapter. This analysis will study poems from *Inquietudes* (Restlessness 1926) and *Canciones de mar y tierra* (Songs of Sea and Land 1930), with references to *Surtidor* (Water Jet 1928) and *Vida a vida y vida o río* (Life to Life and Life or River 1932), focusing on the creative process as the means to articulate the energy of life. Energy, the focal point of this poet's vision, turns her poems into verbal "analogues of thermodynamical systems" (Clarke & Dalrymple Henderson 37).

It is not unusual that Méndez's poems from her early period would have such focus, considering the central role of energy and dynamism in the time when she lived and wrote. Bergson made energy a main goal of his research and he called it life; so did Futurism, whose works explore the nature of dynamism as a sort of fourth dimension, as Boccioni wrote (Apollonio 93). Einstein, in turn, codified it into his famous formula where energy is the same as mass. Just as space and time are connected, Einstein realized the convertibility of mass and energy and showed that light was a translation of mass. Since the amount of mass in an object has a direct correlation with energy, the more expansive the scope, the more energy it will contain. Méndez seems in tune with this rationale for her poems convey big expanses of space and light, as though she wanted to capture the wholeness of life. Among her techniques for conveying vital energy into poetics, Méndez favors a very direct language that emphasizes nouns and verbs (oftentimes in nonconjugated or simple forms), brevity, and special attention on the plastic. Intrinsic to this is the focus in her poems on the present, and on the synchronistic meeting of past and future in the present; the various poetic scenes capture the present and the interconnection among different elements as expressions of vital energy.

What stands out in her poetic writing, and what has probably cost her critical disapproval, is the direct involvement of the poetic speaker in the scene, either by means of an objective correlative that projects the active imaginings of the speaker, or by immersing the "I" in the

scene so that observing and writing, reality and art, subject and object interchange. Méndez's disregard for objectivity conveys the participatory action of observer and observed in the energy and dynamism of light, the air, and the sun. Her physicality is directly fused with the energy in the cosmos, which, in the last analysis, is life itself. The female speaker becomes the magnet of a world perceived as a field of electrical energy. In this way, Méndez gives artistic form to her perception that reality is not a conglomeration of planes or individual fragments separate from one another, but an undivided wholeness where all elements fuse in exchanges of high energy.

In this sense, she coincides with physics where the notion of a reality constituted by "atomic building blocks" was in open contradiction with the interconnectedness revealed by electromagnetism and relativity. The objectivity so firmly defended by classical science was shattered by the role of subjectivity in modern physics. Physicists such as David Bohm refer to this phenomenon as the "Undivided Wholeness in Flowing Movement," and define it as a "universal flux that cannot be defined explicitly but which can be known only implicitly," and where "mind and matter are not separate substances. Rather, they are aspects of one whole and unbroken movement" (11). The flow or ongoing movement comes before the things or ideas that dissolve in that flow, just as ripples and vortices would not occur without the flowing stream where they are found. Bergson had already expressed a similar thought when he said that life is duration in the sense of incessant flow (19).

Regarding her debts to other authors, Méndez makes no secret of her borrowings by way of very clear references. More than imitating other poets, Méndez brings them forth as part of all the many voices constituting her own. She also adds to their themes of existential despair, time and death, her voice of energy and elementary life that, because of its evidence, tends to be taken for granted or disregarded.

The Female Body and the Cosmos

Feminist criticism has been right in pointing out the disadvantages that women, because of tradition and societal restrictions, have faced when trying to develop their creative skills. Méndez is no exception. Her education was limited, at the very least, and her family's opposition to her desires to improve herself was adamant, as Méndez documents quite vividly in her memoir. That she wrote at all is the result of her own determination, of her desire to live a full life as a woman and as an artist.

Concha Méndez immersed herself in her era. "One always obeys the times in which one lives . . . True ambition should be found there, in working, in obeying the voice of the times in the best way possible" ("Discurso pronunciado por la poeta" 65–66). This is one among many declarations by this poet regarding her commitment to her times, not only by being an active contributor to society but also by creating art that did not separate itself from life.[1] It is also an important focus of Catherine Bellver's book *Absence and Presence. Spanish Women Poets of the Twenties and Thirties*, where she considers the complexity involved in the relationship between Spanish women poets and the cultural environment of the Generation of 1927. For Bellver it was a "passing illusion" when women in that group expressed a "state of union with the world around them manifested . . . in their poetry in affirmations of self-assurance and plenitude," in "exuberance" and "confidence in their own creative capacities, their potential for freedom and their ability to transcend the terrestrial" (216–217). Bellver is not off target in her comments, considering the long history of exclusion of women from the literary canon, although it is not always clear that women in Méndez's generation were deluding themselves when proclaiming to belong fully to their times, despite official rejection. Women artists in Méndez's group must have felt compelled to assert their identity as creators and to work with optimism and enthusiasm, not so much because they naïvely believed that society recognized them fully, but because they had a sense of personal pride and resistance to hostile circumstances. It is true that, like other women, Concha Méndez remained in the shadow of her male colleagues, including her own spouse, poet and editor Manuel Altolaguirre, and was not always granted the recognition she deserved for her contribution. However, there is no doubt of the sincerity of her commitment to her work and her full vocation to living life to the fullest. That was no passing illusion for her.[2]

Not only was Méndez fully immersed in the energy and dynamism of her times by her work, activities, and friendships, but her own presence was like a magnet, a whirlwind of activity attracting the energy around her. Those who met her personally, such as Morla Lynch, felt the "vibrations" emanating from Concha and permeating the context around her. In his portrait of the poet, Juan Ramón Jiménez had to eliminate commas and resort to a succession of nouns in order to convey the multifaceted and breathless activity in which Méndez was involved, working at the printing press with her husband, which, in turn, made the room become a multiplicity of places: "stateroom locomotive cabin study" (257). All at once, Méndez could

be navigating a ship, train, plane or be reading or writing; around her dimensions went in every direction, "they move from below up, from left to right," with effects on those sharing the same space, "we get dizzy in four or five ways." Méndez's poetry and persona resonate with what Whitehead calls "vibratory organism" (55), a view where each primordial element of matter is "a vibratory ebb and flow of an underlying energy, or activity" (53). And poet Rafael Alberti, a close friend, seems to have shared the same approach when he gave Méndez some advice about writing, as she remembers in her memoir. Alberti told her to imagine that: "poetry is formed with threads that are in the air, and the poet hooks them up in order to write a poem" (*Memorias habladas* 47). Alberti's "threads" convey an understanding of reality as a texture that is woven with threads containing the energy of all that is around. As mentioned in earlier chapters, scientist Michael Faraday had already resorted to a similar image, "lines of force," he called them, to convey the presence of electromagnetic energy in the field, and painters such as Rafael Barradas worked hard to capture those threads or lines of the subjacent energy on the canvass. Barradas developed his pictorial *vibracionismo* in order to give plastic form to the vibrations in the texture of reality.[3]

Rafael Alberti is the first person to have read the poems Méndez wrote the night when her poetic awakening took place, an awakening that establishes from the outset the link between the artistic and the physical in Méndez. It happened at the *Palacio de Cristal* (Crystal Palace) in the Retiro Park in Madrid, possibly in 1925, on the occasion of the Society of Iberian Artists exhibit. There, on May 28 of that year, Méndez witnessed Federico García Lorca's reading of some of his poems. The experience was life changing, as she writes in her memoir: "In that transparent space, with a view of the top part of the trees, of the luxuriant tops, there my world was transformed" (46). Hearing and seeing Federico recite, not only with his voice and hands but with his whole body, caused in her a tremendous physical reaction, a profusion of sweating so extreme that by the time the reading was over, she was soaked: "I underwent such discovery that I was left in a puddle" (ibid.). This account of her reaction and subsequent transformation blend together elements that are physical, mental, and spiritual; the profusion of sweat was the external indicator of the activity in her imagination caused by the impact of Lorca's recitation. Furthermore, the setting must have contributed to the experience for the transparency of the *Palacio de Cristal* facilitated the fluidity between the outside and inside: listening to Lorca's reading and looking out and seeing the trees seem to be fused in the

poet's memory of the event. This crystal palace, traversed by light and reflections, must have seemed like an enchanted space, but also like a sort of prism charged with light energy. It afforded a view leading to the open space, to the top part of the trees as they rose up above, to experiencing, by means of the words being read and heard, life in its full display of sensorial richness. That was surely a crucial day for Méndez for besides the impact from Lorca's reading, she met Rafael Alberti and painter Maruja Mallo who would become some of her closest friends.

As an assistant to Dr. Bartrina, teacher of Swedish gymnastics as well as clinician at the Palace, Méndez found another way to fuse art and life. In that capacity, she would recite her poems to the students in gym classes (47). It was also around that time that she had read Ibsen's *A Dolls' House* and felt acutely the desire to leave her parents' home and travel. But one of the most telling and humorous experiences in this regard has to do with her winning a swimming competition in San Sebastián. When the news reported the event, they referred to Méndez, the champion, as being also a poet. To receive the award, Méndez arrived at the bay, where two spring boards were located (one for men, the other for women), in her bathing suit with her poems wrapped up in *hule* (rubber). She climbed on top of the spring board and from that high spot she began to recite her poems. When she concluded, she overcame her vertigo and jumped, "and I lost myself swimming with my wrapped up poems" (55). This image of Méndez the poet and swimming champion, plunging into the ocean with her poems, illustrates well her perception of physical activity as an intrinsic aspect of her artistic work, and vice versa. One time, she remembers, while she was cutting onions she had to stop several times because "a poem would come to her" so that between cutting onions and writing, she ended up with fourteen poems (53).

Méndez herself explains the identification of art and life by resorting to an image of poetry as exuding from every pore of her body: "It's that I am like a sack that begins to fill up and, all of a sudden, bursts out, then poetry comes out through the fingers, you pick up the pen and it comes out" (ibid.). Words and poems came out of her body like perspiration or like breathing. She put together her first selection of poems for publication under a pine tree, and when she saw her first book published, she relates the experience of the actual book to life itself: "Everything changed. I experienced great joy upon seeing crystallized something that had come out of me; I was seeing

my life reflected in an environment where everything had the desire to live. Everything was living, even the most imperceptible things: the light in the street lamps, the chairs, the pine grove were transforming me" (54). By holding the book in her hands, Méndez experienced life, not only the life that came out of her and went into the book, but the life surrounding her at that particular time and that she was experiencing intensely through the actual holding of the book. The life of the book appeared as the analogue of Life all around, the crystallization of her experiences. Like her awakening at the *Palacio de Cristal*, the book offered another example of transparency between the inside and outside, of experiences that art had crystallized but that remained permeated with life.

The poem *Ser* (To Be; *Surtidor* 105) illustrates the overall stance of this poetic speaker vis-à-vis her own self and her surrounding context:

To be.
Factory of ideas.
Factory of sensations.
Revolution of all
motors!
To be and to be.
Continuous energy.
Dynamism.
Evolution.
Always like this.
And near the stars.
To be!

While the brief title, *Ser*, evokes a long philosophical and religious tradition of studies on the nature of Being by an impressive list of thinkers from all over the world, this poem disregards any such precedent by adopting, instead, an avant-garde linguistic register of manufacturing, engines, energy, dynamism, and evolution. Ontology becomes the "manufacturing" of ideas as well as sensations, both outcomes that reflect an understanding of being as a mind/body undivided whole, not an abstract notion only, but as source for making things. "Motors" connote the world of automobiles, airplanes, and machinery, in general, although in the poem they refer also to the speaker's own self. She wants to put in motion all the engines of her being: ontology and technical progress fuse so that being may be manufactured just as motors and engines are.

As Dalrymple Henderson explains, the automobile provided twentieth century artists and writers with a new counterpart for human mental and physical processes. Authors as varied as Maurice Maeterlinck and Marinetti referred to the automobile as an animated creature, an anthropomorphism that continues to this day. Marinetti referred to "our powerful bodily electricity," and the language of electricity has often been used in connection with the human realm since the eighteenth century for it provides a "bridge between the animate and inanimate worlds" (*Duchamp* 34, 36). When referring to relationships, particularly between two people, we continue today to speak in terms of electricity, vibrations, magnetic attraction, being or not being well-wired, and so on. The fusion of technological advances and the realm of being is a common feature in Méndez, echoing the approximation of those two areas that Dalrymple Henderson identifies in early twentieth-century arts. Technology becomes another way for life's energy to manifest itself. Along those lines, the reference to "motors" in Méndez's poem applies to the engines maintaining the functioning of being that the speaker wants to revolutionize and, thus, to renovate the way they have been maintaining and guiding the motion of being throughout history. Coming from a woman, this call constitutes a true revolution as it is addressed to the foundations of patriarchal civilization.

The repetition of the verb in "to be and to be" (line 6), and the conjunctive "and," convey the strength of the speaker's desire to reach a way of being devoid of limits or restrictions. Expansion, outward outpouring, a desire to "reach everything" are essential features in this poet's ontological aspirations. "Continuous energy" conveys a similar desire for an uninterrupted, eternal flow of life, which "Dynamism" and "Evolution" assert in different and yet similar ways. Méndez joins in with other avant-garde artists in praising the dynamism of life and the ongoing, gradual development of organisms toward more advanced forms, as Darwin's theories on evolution stated since the nineteenth century. The poem sings to the indivisible and holistic movement of life and being, which she reinforces in the expression "Always like this," a reference to the religious "Amen." This poet's belief in change will continue forever in time and limitlessly in space for it will reach the stars: "And near the stars."[4] The exclamation around the word "To Be!" at the closing shows the increase of energy that has taken place in the poetic process. This "pictorial" typography, so common among avant-garde writers, reflects the speaker's intention to make the word identify with the experience: encircled

by the exclamation points, the word "To Be" radiates with life and energy.

Méndez's energized and vital ontology applies to her poetics. In *Horas de inspiración* (Hours of Inspiration; *Inquietudes* 103), she writes:

> Easy poems
> cover my mind
> And they all look the same,
> like the sections
> in a tangerine. (103)

From the outset, the poet declares that her poetry flows easily, without the complexity that characterized most artistic expressions at the time; it was because of its complexity, as Ortega y Gasset noted, that the general public rejected modern art. In Méndez's case, there are no pretensions of excluding the general audience for she admits that poetry is a natural part of her being, exuding from her body like any other natural fluid. Her poems do not convey a struggle with words or form, with content or expression. They are not even that different from one another, as she herself declares, most likely because their main focus is the energy of life. The poet's mind and body are filled with so much energy that she can barely contain it and has to pour it out in poetry. The analogy between her poems and a "tangerine" is suggested by the rhyme, but it is also unexpected and humorous. The orange or the apple would have been more apt, dignified fruits with which to compare her poetic output. Instead of the sense of completion and perfection those fruits suggest, the flat roundness of the "tangerine" may also be a self-deprecating commentary about herself and her body.[5] Furthermore, it suggests that these poems are not to be considered as fully accomplished works, that their view is somewhat diminished, flattened, not comprehensive, that they do not aim to offer a total, complete picture but their own, different angle, which, like the tangerine, may not be grandiose or perfect, but is substantial, juicy, and sweet. Presenting her body of work as a "tangerine," Méndez may also be criticizing goodheartedly the assumptions of totality, expounded mainly by poetry in the male tradition and its pretensions of possessing the perfect roundness of an orange.

Playa (Beach; *Canciones* 33) offers a view of a beach, possibly in San Sebastián where Méndez's family used to vacation in the summer. The poet sees the beach again in the present time and recalls

the memory and dream she has kept of it since her childhood years. Memory and the past fuse with the present experience of the observer: "I saw it like this on that day." This continuity between past and present, visual perception and dream, explains this poet's understanding of the Calderonian "life is a dream" that precedes the book. For Méndez, life is a dream because reality is an undivided, eternal movement that precedes and founds all manifestations, including dreams. This highly pictorial poem of remembrance and dream occurs under the green light of dawn, an echo of Lorca's somnambulist green minus its tone of frustrated desire.[6] In the speaker's physical eyes, as well as in the memory and dream of the beach, the color green and the beach are a totality, a *gestalt*: small, solitary, bathed in ochre and blue, guarded by mountains and tightly wrapped around by algae and shells. In *proto-gestalt* research the perception of elements organized as a whole was considered beautiful, which corresponds to the way the poet perceives the beach. A *gestalt* involves "dynamically structured forms, configurations or wholes" whose totality is different from the sum of the individual parts. There is "an active interplay between the observer and properties supplied by the observed object" (Vitz & Glimcher 161). In the poem, as in the new color science formulated by Rood and Helmholtz, before the canvas becomes a representation of a scene or figure, it is simply a surface covered with colors arrayed in a certain order. Critic Maurice Denis formulated it similarly: "the visual image before it is a group of people or a social event is essentially a sensory experience of colors arrayed on the retinal surface in a certain order" (cit. ibid., 73). The speaker remembers the colors that configure her image of the beach. As her perception confirms the image she has remembered and dreamt since childhood, the picture/poem becomes the representation of the artistic process.

The shells and algae that encircle this beach suggest a world of resonances (shells), interconnections, and links, which, together with the seagulls' wings beating, convey the vibratory energy traversing the space. Beach and poet become one, for the poet is no longer remembering and verifying, but entering into the scene, passing, so to speak, from the creative space of writing to the actual beach she has been reenacting in the poem. She lets her hair loose, takes off her sandals, and walks on the sand. As her hair fuses with the air, her feet leave tattoo marks on the sand, her arms become entangled with the "fishing rods" that light rays form around, and her shouts of energy echo those of the sails (possibly from boats and ships) awakening at dawn. It is her whole body that leaves the imprint of her creative writing on the page of the beach still white at that early

hour. Likewise, the light, as well as the sails and the poet's arms, provide the enveloping context, the boat of poetry itself in the middle of this field of electromagnetic energy. The overall picture is a light and sound show of creation, of the world being born again every dawn as part of the eternal movement of life. Hers is a "golden joy" enveloped in the golden aura of poetic alchemy. Snails also shout with joy as their shells become resounding chambers for life's vibrations. They encapsulate the concrete form of the vibratory energy in this micro-cosmos. Méndez's poem responds to Delaunay's views about light and perception: "Without *visual perception, no light, no movement.* Light in nature creates *movement of colors [which]* constitute *Reality*... *Simultaneity.*" For the painter, "*The Eye* is our highest sense, the one that communicates most closely with our *brain,* our *consciousness,* the idea of the vital *movement of the world, and its movement* is simultaneity. Our *comprehension* is correlative with our *perception.*" (cit. Vitz & Glimcher 91–92; emphasis in the original).

The circularity in this poet's perception of the beach corresponds to the disks, circles, and spheres that are part of the common iconography of the new color science.

Following the explosion of energy, the last part of the poem returns to the tone of remembrance and nostalgia in the beginning, which recalls the green of innocence of her childhood and youth. In those pristine days, it was possible to fuse with the energy of the cosmos by being open to the sky, earth, and water, without the intermediaries of poetry ("Nor sails or boats"). In the present time, such innocent openness and receptivity may no longer be possible, except by recreating it in the poem. It is the poem that has reconstructed the experience making it vibrate anew in the weaving of the words.

A group of poems conveys cosmic energy via sexuality. *La fragata extranjera* (Foreign Frigate; *Inquietudes* 14–15) describes a love meeting on board a ship. The active agent is the woman who swims to the meeting and arrives wearing just her bathing suit; the man waits for her on board fully clothed in uniform on an anchored ship. The blue of the sky and sea contains the surrounding energy that sustains her as she swims across the bay. When her "breathless body" meets the officer on the steps, she embodies the elements: the earth of her body and the sea, air, and sky in the surroundings. The poem rejoices in the physical union of woman and nature, of woman and man. Contrary to the traditional situation of the man telling of his sexual exploits, it is the woman here who recounts her encounter and her departure in the same way she had arrived, after the love act has taken place. As the two bodies fuse, their pulses

beating ardently, cosmic energy takes human form and, in turn, is made into art.

En la alborada (At Dawn; *Inquietudes* 77) recounts the poet's wish to return with someone, her beloved, most likely, to an orchard they must have visited before in search of pomegranates. As the day begins, the poem describes the initiation into love and writing. The union happens against the background of breezes, water, and, particularly the windmill, which occupies the center of the orchard/poem, constituting the image of the poetic churning itself. The grinding of the mill, in conjunction with the water and wind, configure the action of the creative process that will blossom to its full form with the coming of the day. It is also the background to the lovemaking, as represented in the image of opening up the pomegranates.

The pomegranate is a well-known image of fertility; Lorca dedicates *Canción oriental* (Oriental Song), a poem from his *Libro de poemas* (Book of Poems), to this fruit: a "flame on the tree / sister in flesh of Venus . . . light of life" (*Obras completas* 105– 107). Méndez's pomegranate is many of the things Lorca attributes to the fruit, but her poem is much shorter and it is devoid of discursiveness or philosophizing. Méndez emphasizes the sensorial elements surrounding the scene of love and creation, and the intensity of the experience through color: the rubies of the pomegranate grains, the emerald of the fields, the white wallflowers, and the light of dawn. Méndez's orchard responds to Baudelaire's description of that "beautiful space in nature where all turns green, red . . . shimmers in total freedom." Colors are displayed in correspondence with what Baudelaire calls "their molecular constitution" (*Oeuvres complètes* 230–231).

Méndez's poem of lovemaking is also a poem singing the hymn Baudelaire calls "color." Through color it captures the intensity and energy of light and life. However, nothing is further from Méndez's poem than the erotic decadence of the turn of the century that Baudelaire embodies so well. As Belver notes regarding Méndez and the other poets of her group—Ernestina de Champourcin, Josefina de la Torre, and Carmen Conde—,the early writings of these women poets are filled with "pictorial vividness" and "a strong sense of materiality." Bellver also comments that among these women writers the tendency is to arrest time and to suggest proximity in space so that the overall, most striking feature is presence (*Absence and Presence* 13).

Méndez's poems corroborate this critic's assessment, although the reasons are not to be found only in the poet's sense of self, optimism, and assurance at this early stage of her life. During that time period, the sense of time as a linear progression and the classical split between

space and time were being contested by relativity. Méndez's poem produces the impression of so enlarged a present time that it is capable of encompassing past and future so that the only existing time is the "now." The enlargement of the present seems to be associated with the high level of energy in the poem, just as when at light speed time ceases to change because it contains all change. For this poet things are not solid and immovable, but conglomerates of corpuscles in constant motion.

There is also in Méndez the sympathetic approach to reality that Bergson refers to as the resemblance of entering into reality, "to be one with it, to live it" (45). It is to be noted that Bergson lectured at the *Residencia* on May 1, 1916. It is possible that Méndez might have heard of the talk from Buñuel or from Lorca, who would later live at the *Residencia*, or even from Alberti who lived in Madrid and frequented the *Residencia*. In his book on Bergson's philosophy published by the *Residencia*, Manuel G. Morente translates Bergson's definition of intuition as: "That type of intellectual sympathy by which we transport ourselves to the inside of an object in order to coincide with what it has of unique, and therefore, of inexpressible. We would be in the object as we are in our self; we would live its life like we live ours" (56–57). Méndez's poems respond to Bergsonian intuition as they capture and fuse sympathetically with the core of reality.

In the different settings of Concha Méndez's poems—an island, reefs, rocks, the noon hour, dawn, the vastness of the pampa—love encounters are intense experiences where the speaker absorbs in her own body the energy in her surroundings becoming, in turn, a sort of whirlwind or magnetic center reaching the point of combustion. Poems around the encounter of lovers convey scenes where color, light, rays, shimmering, and reflections come together to proclaim the energy of Eros in the lovers and the cosmos surrounding them. The pressure is often so high that the female speaker has to ask for help in managing such excess of energy. The brevity of these poems and simplicity of the language convey the intensity and urgency of the experience, the desire to empty the word of any unnecessary excess so that it can be energy itself.

Modern Life and the Journey of Poetic Creation

"Traveling was a desire that was born in my childhood when from my school desk I looked at the maps hanging on the wall," Méndez writes in her memoirs (83). And traveling does not only mean a geographical

displacement for it is also the preferred image for the creative process. Also in her memoirs she explains how she began to write her childhood dreams "shuffling the school maps in the silence of the night" (62). Those dreams became a reality when she got on board a "merchant ship," just as she had dreamt for it to happen. The identification of writing with traveling is constant throughout Méndez's poetry and corroborates the importance of space, energy, and movement in her poetic perspective. The one time she audited at the University, the topic she chose was geographical literature, which is how she learnt that Galicia and Andalucía were regions prone to poetry, that theater was more frequent in Madrid, and the novel in Northern Spain and the Canary Islands (*Memorias habladas* 45). Her desire to be on the move constantly, to go beyond both spatial boundaries and the societal conventions that constrained her behavior, is the same desire shared by other avant-garde artists, although in a woman's case constraints were harder to overcome. Many of Mendez's poems deal with poetic creation as a journey. The avant-garde emphasis on dynamism, on reaching a beyond is the evident backdrop for these compositions.

As discussed in previous chapters, from the nineteenth century onward, there was great interest among scientists and artists in dimensions other than the known ones. C. H. Hinton, considered to be the first true hyperspace thinker, reiterated in his writings the need to enlarge our sense of space: "there is no point in the whole of space which we cannot reach by a combination of movements in three directions" (229). Hinton did not disparage Kant's belief in space as an a priori notion but, instead, he built on the philosopher's understanding of space as our way of knowledge of the world. Notions of other dimensions became popular through science fiction and fantasies of the kind written by H. G. Wells. Wells visited Madrid where he lectured at the *Residencia* as part of the series sponsored by the Hispano-English Committee. It is likely that through Buñuel, whom she met in San Sebastián, Méndez was introduced to his friends at the *Residencia* in Madrid, Lorca, Dalí, and Alberti, and might have heard about the lectures and activities being held there. Considering Méndez's reiterated interest in traveling, Hinton's hyperspace theories and the belief in space as knowledge of the world must have resonated in her.

Méndez attended the lectures given at the Madrid *Club Femenino* (Women's Club) and participated in *tertulias* where various cultural topics were discussed (Resnick 135). When she decided to leave behind her known world and family in Madrid to travel to England in 1928, she earned her living by translating from the French for Espasa-Calpe, an activity that gave her monetary compensation and

contributed to the self-didacticism she had already started in Madrid. In describing her time in England, Méndez said: "In London I was like a triple receptor of emotions and sensations" (137). By referring to her own self as "receptor," Méndez conveys her capacity to be porous and absorb the many experiences from her trips that she would later transfer to her poems. But she was an equally powerful transmitter of energy, as Cansinos-Assens reported when she arrived in Argentina: "Since Concha Méndez is in Buenos Aires, a multichromatic and a polyphonic light vibrates against the Buenos Aires boredom . . . a jubilation of the sea. A desire for horizons, freedom, for moving forward" (cit. Resnick 138).

In a speech Méndez gave in 1930 ("Discurso pronunciado por la poeta" 58), she referred to many of the themes in her poems and to the cosmic scope of her vision:

> I, following my vocation—and thus one day I nominated myself "citizen of the world"—I will walk in that morning that is the future, through seas and lands and ports and cities, and, at times—so as not to lose the habit—through the stars, those worlds of light, the most interesting, because we can only see them through their immense distance, and therefore, their unreality, which is the most perfect state that exists.

Méndez concedes that those other dimensions may be unreal, but she also questions the validity that the "real" has traditionally enjoyed or the split between so called reality and unreality. Echoing Calderón's theme of life as dream, which Méndez quotes as epigraph to *Canciones de mar y tierra*, she seems to consider the terms reality/unreality, life/dream not as opposites, but as complementary pairs.

Hélices (Helixes; *Canciones* 59) is a title suggestive of Guillermo de Torre's *Helixes*, a book published in 1923. De Torre's wife, Norah Borges, illustrated Méndez's *Canciones* as well as works by other poets, such as Carmen Conde's *Júbilos* (Jubilations).[7] Besides the reference to the helms in the ship or plane on which Méndez made her many trips, these are "Helixes of centuries," suggesting a time machine that has taken the poet traveler to "this place which I hardly recognize." The place indicated at the end of the poem is Oxford; it could also refer to Argentina where Méndez published this poetry collection. The strangeness of the place is an experience to be expected when one goes to another country. However, the poem seems to refer to strangeness ensuing from a space and time beyond any geographical context. The name given to the new spacetime is "movable platforms," a surface with no solid stronghold

because when she tries to set foot on the earth, her feet and head do not hold her.

A similar sense of instability had been made evident when relativity displaced the traditional understanding of space and time as a priori, fixed, and unmovable realities. Just as the location and motion of the observer in relativity affects the observation, the poet, by having traveled to a new space and time zone, is not yet familiar with the perspective the new location affords her. The only stable ground is her own writing where she finds her paradise: "Only my pen and my hand / in a point of support" (60). However, the scene of writing is far from being a calm world. Not only does this poet stand on movable platforms but also her eyes are "scuba divers of the infinite," searching into an unclear path ahead, while the eyes of her soul are a "boiling pot of dreams," suggesting the level of hyperactivity in the creative process. In spite of the "helixes of centuries," which have brought her to this point, of the tradition and art accumulated throughout those centuries, the present is unchartered territory.

Quance is accurate in assessing that the drawings by Norah Borges illustrating *Canciones* "imply a celebration of physicality" (60), but they also convey the notion of journey for the creative process. They comprise eight illustrations, including the first, *Rosa de los vientos* (Compass Card 17), and the last, representing a globe with the quadrants for the horizon, the Zodiac, and the Meridian (189). There is also on page 181, preceding the closing section in prose, the drawing of a five-point star containing a spiral inside. The collection is thus framed by images of instruments for navigation. The rest, as Quance indicates, focus on the human figure: a female bather lying down on the sand by the ocean, her hair flowing in the air, one breast exposed and a shell next to her (32); or she is dressed as a sailor on the rail of a boat (62); she is sometimes drawn in a pensive mood with curves in the background suggesting vibrations in the air (80); a common drawing is also the prow of a ship or boat with the figurehead of a mermaid; there is also a young man lying down on the sand, holding a book in one hand and a basket with three fish in the other (100).

The drawings are reiterative: the man and woman lying on the sand form a couple, suggestive of their union as several poems have expressed. The setting—beach, sand, sky—the bodies barely covered by bathing suits, the suggestion of waves in the air, sea, and in the woman's hair, all point to the fusion of the characters with their surroundings. It is relevant that the drawings of the compass card, the globe, and the star, open and close the collection as though they were

indicating that the book, like a boat, is guided by those instruments. Likewise, the star, with the spiral inside, suggests the high aspirations of the speaker and directs her activity toward faraway lands and literary areas, and the ongoing process (the spiral) that is involved in such endeavor. The star as the guiding light contains the ever-going movement of the spiral whose concentric circles are also a representation of the interconnectedness in field theory and self-reflexivity. The search for a beyond is not outside in some transcendent realm, but within. In his portrait of Méndez, Juan Ramón Jiménez described her as: "nervous compass of flesh over the erected compass rose." The older poet seems to have perceived in the young woman's body what physics describes as the electromagnetic activity in spacetime.

These drawings are good plastic renditions of essential features in Méndez's creative journey. Throughout her poems she has emphasized the communion with cosmic energy and the importance of giving free rein to vital impulses. Hence, the enigmatic closing question "do you understand now?" in the prose section at the end of *Canciones* (183–187) is addressed to the reader who, by now, should understand that this poet's journey does not offer any aesthetic program beyond its intent to fuse with universal energy. Hers is a round-trip ticket because it comes and goes with the cosmic program of eternal renewal. Méndez herself writes: "In what I have always believed most is perpetual creation . . . The creator does not look, he finds: creation goes towards him and he goes towards creation, like lovers who fulfill a universal destiny" ("Historia de un teatro" 69, 70).

Méndez's focus on the creative process as an expedition aiming for ever vaster expanses in space and time coincides with similar interests for reaching other dimensions in the avant-garde, overall, and in the sciences. It relates most directly with her view of the cosmos, which she also shares with physics, as being fundamentally motion. Her writing and living take place on movable platforms, which convey the uncertainty that physics had also identified as the principle for reality and that Méndez's speaker experiences as a source of ongoing creation. The importance of sun and light for this journey corresponds to the state of hyperconsciousness that others among her peers have identified as the means to pierce into the texture of reality, an enhanced experience of the energy of the cosmos.

The importance of motion for the creative process has a basis in Méndez's declared fascination with technological advances. As she wrote, she had seen "all inventions of the century" because she was born "in the midst of modernity" (*Memorias habladas* 29). Her poems on cars, trains, airplanes, and so on convey the era's fascination

with speed and motion, and her understanding that these means of transportation were best suited for the poetic inspiration of her time. In her perception of cosmic energy, these advances offered concrete expression of a world filled with vibratory energy. Through her friends Maruja Mallo and Rafael Alberti, Méndez may have heard and learned of Barradas's *vibracionismo.* Vibrationism has its basis in the experimental work carried out by Hertz with electrical waves. Also, Roentgen's discovery of x-rays in 1895 and Becquerel's discovery of radioactivity in 1896 exposed a view of matter that was surprising, for it no longer was the solid, impenetrable substance that it was believed to be; the charge of energy permeating matter turned it into something mysterious. Barradas's work on hertzian waves, in collaboration with avant-garde Catalan poet Joan Salvat-Papasseit, conveys the same vertigo that Méndez acknowledges in many of her poems regarding the intensity and urgency of her experience of cosmic energy. Her use of color as energy in some of her poems corresponds to Barradas's technique of juxtaposing color to convey the vibrations in space and modern life (Morse 43).

Similar to the fascination with speed and movement was the enthusiasm for sports, for the outdoors, and for modern living (jazz, cocktails, etc.). Méndez was a sportswoman herself and wrote many poems about skaters, dancers, and skiers. In *Los patinadores* (The Skaters; *Inquietudes* 37), the skaters convey dynamism as they "go" wearing their bright suits, looking like moving rainbows, prisms spreading their colors in the air. As they come down from the mountains, against the breaking of the first signs of dawn, carrying their "skis" [*sic*], they seem the modern version of some biblical figure bringing down the message of color, motion, and vitality from above. They capture in simple words the motion that artists such as Boccioni, Kupka, or Duchamp conveyed in pictorial terms. Like these painters, Méndez seems interested in presenting Bergsonian continuity in movement. In "Jazz-Band" (*Inquietudes* 44), the energy of life comes through the sound of jazz music and its broken rhythms against a background of vibrant lights and fulminating stars. The bar/cabaret-like atmosphere evokes Dionysian eroticism and cups overflowing with wine; it also evokes children's games because of its improvisation and carefree sounds. References to hysteria and delirium allude to the world of psychiatry, to Freud whose works Méndez had read. Conditions such as hysteria were associated to the frenzy of modern living, while jazz and skyscrapers go together because of the urban origins of the music; the windows in these high-risers are "diaphanous" because of the rich profusion of light they produce in modern cities. Jazz is also

"exotic" because it is the music from blacks whose anguish comes through in the "complaints of metals," that is, in the unconventional, "scratchy" way of playing the instruments. Everything is vibrating, with this music capturing the energy of the modern city. The poem exhibits the avant-garde enthusiasm for modernity at a time when new advances promised the possibility of accessing unknown territories. It also conveys the same avant-garde liking for the exploration of primitive, non-Western cultures and arts.[8]

These poems are certainly positive about progress; they are also devoid of the anguish that would mark Lorca's writings about New York and the attack that he felt was perpetrated against nature and humankind by technology and capitalism. Méndez, instead, is fascinated by what cars and planes suggest of other regions of reality. She wants to be a part of it. That the cold air up high in the sky would kill her bleeding heart, as the poem states, suggests reservations about her own, personal, and creative prowess to attempt adventures that modern transportation invites her to dare; but it also suggests the resistance she fears would be coming from the world for her daring. Above all, these images point to the human element that Méndez places in the center of all her poems. Her enthusiasm for modern technology is always marked by her poetic consciousness, just as her cosmic vision is filtered through her own body.

In a good number of poems, fusion with the surrounding energy takes place by means of an object, person, or animal that functions as an objective correlative of the poet herself. This does not mean that the poet is left outside the poem. On the contrary, the objective correlative is viewed as a projection of the speaker whose presence is also made clear in the scene. In these poems, the observation seems to happen simultaneously with the writing as a way to emphasize the living, physical reality of the writing. Even when Méndez makes clear the artistic nature of her poem, life exudes from its seams. From *Vida a vida* (Life to Life), *Bandeja. (Naturaleza viva)* (Tray [Living Nature] 61) is a highly pictorial poem, as the title indicates. It is also a subversion of the pictorial convention of "still life" for, instead of inanimate pitchers, glasses, dead animals, and so on, this poem/tray exhibits a cornucopia of fruits as the compendium of life in all its sensorial variety. The names are listed without verbs until the gerund "showing" at the end conveys the sense of present of the scene. The center of this tray, "under multiple lights," is a stage for life to display its bounty, a focal point where cosmic energy concentrates. And the pineapple, image of fertility in the middle, showing off "the leaves of its crest," is the star of the show. If ekphrasis is a poem about a

painting, or the verbal form of a pictorial image, this poem renders in words not a work of art, but living things. The poem is the verbal rendition of life in all its simplicity and variety. Life becomes art while art is rendered alive.

Oftentimes, skaters and dancers are self-reflexive projections of the poet and poetic writing. In *La danzarina* (The Dancer; *Inquietudes* 81), the poet seems to be looking at a scene in the outside where there may be a dancer, or, as it moves with the wind, the fog may suggest such figure. The command forms in the opening stanza convey a sense of energy and enthusiasm, possibly a desire to combat the surrounding fog, or for the dance of inspiration to begin, which her surroundings, clouded with fog, obstruct. If the dancer of creation were to perform, all the stars and mountains would come down from their high places to see the show. The dance of creation, of life itself that the poet wants to replicate on her white page, would be a show worth watching. This cosmic theater, this viewing of Life's performance is this poet's version of the world as a theater. Life may be a play but its players are implicit in life itself, in the self-reflexive nature of creation. Physics refers to this self-reflexivity as field theory where electricity and magnetism interconnect and the field is traversed by intermingling lines of forces.

Intertextual Referencing and Energy

Following the critical trend that has evaluated Méndez's poetry as derivative of other male poets, Emilio Miró, in his prologue to *Vida a vida* (1926), describes *Inquietudes* as "a naïve homage to the book *Marinero en tierra* (1925), awarded the National Prize for Literature" (12). However for female critics such as Bellver, Méndez's poetry is the opposite of the nostalgia that pervades Alberti's book. *Inquietudes* and *Canciones* are filled with a "sense of presence and realization" (*Absence and Presence* 53). Bellver adds that for women, "Imitation became the entry fee for gaining access into the men's literary 'club' of the day and for enjoying a modicum of legitimacy there as professional practitioners" (41). It would be too simplistic to think that Méndez's intertextual references to other authors were intended to imitate, considering how obvious they are. Critics have erred in stressing the derivative nature of this woman's poetry. When Méndez refers to very well-known lines from equally recognizable authors, she is giving credit to those sources, undoubtedly, but she is also interjecting her own viewpoint, usually in contradistinction with the prevailing understanding of those sources. Almost universally, Méndez's take is to bring to the fore the discourse of energy and life

against the background of existential anguish, the passage of time, and the inevitability of death.

While *Mediodía* (Noon Time; *Inquietudes* 79) and *Pampera* (Girl from the Pampas; *Canciones* 123) contain references to Guillén, Don Quijote, and Lorca, *Inspiración* (Inspiration) is written against the background of Bécquer, while *Canción de la carretera* (Song of the Road; *Inquietudes* 7, 10) is dedicated to Lorca. Similar to Bécquer's desire for a language made of "sighs and laughter, colors and notes" ("Rima I"), *Inspiración* refers to poetic inspiration as aspiration for a language that would be able to convey what is difficult to apprehend tangibly. But "inspiration" also implies the physical action of taking in air in the lungs, responding to an understanding of poetry as being intrinsically fused with physics and the body. As activity involving the inhaling and exhaling of air, Méndez's poetry infuses Bécquer's inapprehensible language with physicality.

Ya van (They Are Leaving; *Canciones* 83) is dedicated to poet Pedro Salinas from whom Méndez's poem takes some inspiration, particularly from Salinas's poem "Underwood Girls." Just as Salinas's poem identifies the keys of the typewriter with the stars in the sky, Méndez's speaker is looking at the night sky and the stars in their "regatta" of time. This, the "regatta," is Méndez's image for the stars moving in their orbits toward "the other shore" of the coming day and of the poetic dimension she is reaching with her writing. As in other poems, the cosmos becomes the ship for the poetic journey where the poet rides with the stars as the rowers and guiding lights. In this poem, the stars are the seven configuring the Great Bear constellation with the moon as the captain. Theirs is a "regatta to the dawns" moving toward the new day and the completion of the poem we are reading. The speaker's desire is heading toward the end when she wishes to navigate "Through that sea, without sea" of cosmic space. She would also like to become blue and to inscribe herself on the navy blue of the night sky. Viewed as a boat in a cosmic regatta, the starry night is devoid of the romantic melancholy normally attributed to such setting; nor is there a sense of unreachable distance because the speaker desires to navigate in the blue like another star in the sky, grafting herself on the celestial manuscript. Instead of the keyboard being the constellation, as it is in Salinas's poem, it is the woman herself who articulates cosmic energy while becoming part of the cosmic manuscript herself. She writes the cosmos while the cosmos is inscribed on her.

In her various borrowings, Méndez emphasizes the vital and physical aspects of the creative process. Just as living is a matter of inhaling

and exhaling air, poetry itself is words that vibrate with the energy in the air. Calderón's "life is a dream" is turned around in Méndez so that instead of pointing to the vanity of life, it refers to its creative and rich nature. "Life is a dream" because it asks to be lived in all the rich dimensions, not only according to reason and logic, but also according to imagination, the subconscious, and fantasy. Instead of placing the focus on some transcendent level and, in the process, disregarding reality as too superficial, Méndez identifies life with the energy and light of the cosmos. The physical encompasses the personal, nature encompasses art, and vice-versa. Mass, real objects, the things in the world, are containers of energy, elements of the life around and focus of this poet's artistic creation. Méndez herself said about Calderón that "From the performing and reading of his works I have come out as from a bath of light. For me life is a dream and also solitude" ("Historia de un teatro" 73). In spite of the sobering message in Calderón's work, Méndez comes out of it enlightened: the dream of life does not dissolve in nothingness for it is rather filled with rich imaginings.

Concha Méndez is part of a generation of women who lived through many changes and transformations in all areas of life: societal, political, and artistic. Like others in her group—artists, intellectuals, writers such as Maruja Mallo, María de Maeztu, María Zambrano, Rosa Chacel, Ernestina de Champourcin, and Josefina de la Torre, to name a few—Méndez came from a well-to-do middle-class family that did not support her desire for emancipation but, because of its financial affluence, made it easier for her to take advantage of new venues of learning opened by the incipient cinema, the emphasis placed upon sports, the new means of communication, and the ideas for a new social order brought about by the industrial revolution and Marxism. The avant-garde spirit of renovation and modernity also offered women a new role in society, while legislation was implementing laws to promote the education of girls. However, while women were being depicted as active outside of the home, the prevailing mentality continued to maintain the nineteenth-century ideal of the domestic woman, the angel of the home (see Bellver's *Absence and Presence* 22–42).

This reading has established Méndez as a figure fully integrated in her environment, aware of the persisting limitations placed upon women but also of the new opportunities opened to them, a woman determined to take advantage of those opportunities and assert her voice. As an integral part of her environment, Méndez made her poetry-writing a porous medium to convey the life and energy in the cosmos. What Lily Litvak describes as the curves and twisted undulations of the eroticism pervading art at the turn of the century,

become in Méndez the undulations and curves of the field of electrical forces, and of the energy and vitality of modern times. Méndez's so-called derivative poetry responds to her desire for integration and acceptance, but also for offering her own viewpoint about the importance of asserting life. It is her body that gets ignited as part of the surrounding whirlwind of cosmic energy.

The lightness and brevity of these writings exclude any heavy reflection that would interfere with capturing the vibratory energy of life. Instead, Méndez resorts to Bergson's intuition as the instrument to apprehend *durée*. In order to understand life, one has to approach it in its immediacy, "in the living consciousness of living" (21) via intuition. An intellectual approach would tend to freeze the flow of energy and would also limit the scope; intuition, on the other hand, affords a more sympathetic, wholesome attitude toward reality and a facilitating means for life. In her poems Méndez captures the intuition of life, of the incessant flow of creation that life is. Her protagonist affirms herself by means of her creative will and action. She is situated right in the middle of the field of electrical and magnetic forces of reality. Méndez epitomizes the surpassing of the Cartesian division between the *res cogitans* and *res extensa*.

Ser, the youthful poem from *Surtidor*, was the point of departure for this examination of Méndez's process of creation. Her desire there to be dynamism, motion, energy, to always move in the direction of the stars, to turn her being into the source for manufacturing ideas and sensations, is somewhat condensed in *Poesía* (Poetry) from *Vida a vida* (98). The focus moves from the poet's being, to being and living with poetry. The popular expression "love is in the air" becomes "poetry is in the air" and in the poet's being. Air, space, contain the vibrations of energy, of life as poetry, and poetry as life that the woman poet has been capturing in so many of her compositions. Here, in her distinctive direct way, she feels the air coming to meet her: her soul and the pores of her own skin open wide to welcome it. She metamorphoses into the poetic and vital *pneuma*; she becomes poetry itself. Together, they go on their journey:

> The two of us together we travel
> such fantastic places
> that I would say they are dreams,
> unreachable for others.

Méndez has recognized the central role of fantasy and dreaming in her life and poetry and, as the last line indicates, the poetic flight is

not for everyone. Although poetry's dreams may be inaccessible to others, they are not for her. As Méndez states about fantasy: "Fantasy neither idealizes nor deforms or limits beings and things; neither is it the deviation of those. Fantasy penetrates, discovers, recreates and amplifies the essence of all being and makes us see it with the luxury of the unlimited" ("Historia de un teatro" 76).

It is telling that Méndez, a woman so intrinsically immersed in the physical world, placed such importance on fantasy and dreaming in her life, not, however, in the romantic sense, but in the most modern sense of applying to reality the dreams of the mind, of imagination. As Einstein stated, imagination is more valuable than knowledge itself, and thanks to imagination, modern physics came up with most of its stunning discoveries. In her own way, Méndez led her life by the belief that living and dreaming are two sides of the same coin. As a modern woman, she grabbed what life and energy could give her to make her dreams a reality. Her unconventional life is testimony of her accomplishments in her own emancipation, while in her poems, she reenacts scenes of absorption and participation into cosmic energy. Hers was a grandiose dream clothed in direct language and brief poems, which like sparks aimed at containing energy. As a true participant of her times, Méndez does not get lost in abstractions, nor does she let existential anguish diminish her dream: her faith in the energy of her physical body and of the cosmos supports her dream.

Chapter 7

Lorca's *Suites* and *Canciones*: Cubism, Light, and the Uncertainty of Reflections

In his 1928 lecture "Thoughts on Modern Art" Lorca declared the need for art to advance "just as science does, day after day, into that incredible field which does become real, toward the absurd which does become the pure edge of truth" (135). Lorca admired the impulse to explore unknown, even risky and nonsensical areas that sciences were modeling so dramatically, venturing against established patterns to reach the unconventional nature of truth. The arts, on the other hand, lagged behind under the burden of long-held models. *Suites* and *Canciones* (Songs), the two collections that I will discuss in this chapter, were written in the early 1920s during years when Lorca was living at the *Residencia*, among the innovative and dynamic spirit of the avant-garde.[1] They have a predominant focus on the physical world and cosmic phenomena, and on exploring poetic imagery and strategies in consonance with the risk-taking spirit Lorca expounded in his lecture. In connection with some of these poems, Lorca produced a number of drawings that, as he wrote to his friend and art critic Sebastià Gasch, helped him deal with subjects that were too lengthy or contained a "poetically stale emotion"; besides, drawing amused him "extraordinarily" (*Epistolario II* 74). I will refer to some of these drawings as they pertain to the poetic works.

The seemingly simple style, child-like atmosphere, and fairy-tale type characters of these poems reflect the avant-garde interest in accessing a pristine, new vision that children and primitive cultures

seemed to preserve in spite of the weight of many layers of traditional beliefs. Some artists even went to live in places far away from civilization (Gauguin, for instance) while others, such as Oscar Wilde and Ruskin, made use of archetypes or allegory to denounce the social instability that they perceived to be due to excessive positivism and industrialization. However, the simplicity of these poems is in appearance only because most resist easy interpretation. As D. Gareth Walters points out, their form is a mask for the poet to conceal his own person, his preferences and worries, and to divert them onto the cosmos. As part of this concealment, Lorca is determined to contain any overt expression of emotions. Behind him now is his youthful *Libro de poemas* (Book of Poems) with its excessive sentimentalism and long verses. In letters from this period, he insists on the need to write with a serene and calm spirit, which usually translates into brief but enigmatic and at times even hermetic poems. Behind the lightness of their form, the *suites* and *canciones* allow Lorca to tackle serious issues regarding identity, beliefs, art, and the surrounding world without sounding too burdensome and personal.[2]

But the main focus of these poems is on sight, light, and reflections, topics that he would treat at length in his lecture on Góngora (1925–1926) and that he shared with other poets and artists of his generation. So it was with his close friend and painter Salvador Dalí who, in order to systematize his regard, went so far as to develop the paranoiac-critical method.[3] Their friendship and frequent conversations about art must have given these two artists more than one occasion to discuss what Dalí's method revealed—that reality is far from being solid and unchangeable, that matter disperses in myriads of reflections, and that perspectives are multiple. Lorca identified this phenomenon of *reflejo* (reflection) as the protagonist of his *suites*: "I call these things 'songs with reflection,' because I only want that: to give with words the sublime sensation of reflection, taking away from the trembling what it has of a Solomon-like nature" (*Epistolario I* 38). His drawings of doubling of faces, particularly those of clowns and harlequins, give evidence of the young poet's interest in reflections and their implications.

The "things" Lorca calls "songs with reflections" in the quotation are the *suites* he was busy writing from the end of 1920 until July of 1923 (Belamich, "Las *Suites*" 267). By calling them "songs with reflections," Lorca seems to have conceived the *suites* not only in relation to music, which is obvious, but also in relation to images, as the term "reflection" suggests. "Reflection" also describes the action and state of thinking about something, and it refers to a type of

movement, which Lorca describes in the quoted text as "trembling," like the undulation of the waters around an object or, synesthesically, like the reverberation of sound waves in the air. The "reflection" is the substance-less effect of an object or being. As he articulates the "reflection" with words, Lorca strives to eliminate from its trembling any trace of its "Solomon-like nature." This term may refer to a type of column that ascends in a spiral-like fashion, but, in the context of writing, suggests a style that is rhetorical, baroque, or somewhat contorted. Taking the name from King Solomon, the adjective is also applied to someone who is wise, or appears to be, and to the king's judgment of cutting the contested child in half. If this initial scrutiny is sound, Lorca's words describe his project of the *suites* as the articulation of effects—the reflected image, the thought, or the tremor or echo—but not of the cause itself. He writes in a manner that conveys the "reflection" without excessive rhetoric, sentimentalism, or intellectual airs, and with a view that encompasses, rather than divides. The brevity and contention of these poems fit the purpose of doing away with the "Solomon-like" or rhetorical aspect because both, object and reflection, are assessed as two aspects of the same whole and in relation with the surrounding elements of space, air, time, and light.

The visual conception of this book is clear in Lorca's correspondence: "*I have seen* an admirable book which is to be done and that I would like to do . . . I already see even the chapters and dwellings," he writes to his friend Melchor Fernández Almagro (*Epistolario I* 44; emphasis in the original). He explains further that it is a book about "The meditations and allegories of water," which will contain "very detailed analyses of the concentric circle, of the reflection." While composing the *suite En el jardín de las toronjas de luna* (The Garden of Lunar Grapefruits), Lorca plans to work on it all summer "because I am infinitely excited that it be like I have seen it." His poems appear to him as words illuminated by a "phosphoric light" filled with mysterious sensorial and sound emotions (*Epistolario I* 69, 73). Lorca's attempt to give verbal matter to the immaterial, to convey with words the "sublime sensation of the reflection," responds to the growing interest at the time on what scientific discoveries were revealing of the imponderable. Dalí's paranoid-critical method was the painter's way to materialize the imponderable images of concrete irrationality (112–113). Lorca's *suites,* in turn, deal with bodies that morph into other bodies or into filaments, waves, reverberations, rumors, aromas, echoes, or palimpsests. These various forms of "reflections" are light emanations where solidity dissolves. With natural phenomena

diffusing into reflections, the poet's sense of self and his beliefs undergo a similar dissolution.

With the "reflection" phenomenon as the overriding principle, this chapter proposes a reading of *Suites* and *Canciones* from the perspective of the new spirit as it affected the arts and sciences at the time. Critics agree that the *suites* reflect the innovative spirit of the avant-garde, but little has been done on the possible impact of cubist and scientific tenets on the conception of these poems. Cubist preoccupations about form, space, dimension, color, simultaneity, and multiple planes, and their disregard for the anecdotal in favor of the fragmentary and the discontinuous paralleled and responded to the new scientific discoveries. Artists, in general, believed in the need to be aware of advances in science in order to be able to articulate the new reality in new forms of art (Gray 111). The atmosphere of cross-pollination among different fields of knowledge characteristic of this period, as discussed in the introduction, was well represented in the *Residencia*. Histologist Santiago Ramón y Cajal (1852–1934) and biochemist Severo Ochoa (1905–1993), both Nobel laureates, were present frequently at the *Residencia* where, among other distinguished figures of the world of arts and sciences, Einstein and Madame Curie visited and lectured and where artists such as Lorca lived.[4] With the breakdown of universal objectivity and the crisis of the Cartesian subject, artists and scientists were questioning the veracity of the cause-effect relationship so neatly stated by the law of causality, while reevaluating the delineation between subject and object. They were to approach this new world from new and unexpected angles.

Lorca's letters reveal an intense poetic activity and awareness of the importance of form and style during those two and a half years that he spent writing the *suites*. As is well known, he arrived in Madrid in the spring of 1919 and moved to the *Residencia* in January 1920. During those early years, Lorca shared in the spirit of artistic renovation and experimentation in Madrid, a city that appeared to him as "strange and modern, / almost cubist" (cit. Stainton 66). Through his interaction with other artists and exposure to the new artistic currents, Lorca became very aware of the limitations of his first book of poems and the need to polish away the excessive discursiveness from his style. He learned about *creacionismo* when he met Huidobro; Gómez de la Serna's *greguerías* (aphorisms) demonstrated wit in image-making and concision in language; Guillermo de Torre and the painter Barradas exposed him to the tenets of *ultraísmo*, *vibracionismo*, and their admiration for Picasso, Braque, Reverdy, Max Jacob, Apollinaire and other representatives of the *nouveau esprit* (Gibson,

Lorca-Dalí 75–76).[5] Within the general spirit of modernization, it was cubism that was best suited to respond to the climate for change. Seen as "pure grammar of formal renewal," cubism addressed the young artists' desire to create works of art with a clear awareness of their responsibility as makers of a new reality (Soria Olmedo 60).

These years were a critical time of exploration for Lorca, not only at the artistic level, but personally as well: "I see myself in sunsets / and a swarm of people / wanders through my heart," he writes in *Confusión* (Confusion 177–178). The speaker, feeling his heart dispersed in a multiplicity of beings, experiences a personal dimension of the "reflection" phenomenon. The theme of the decentralization of identity, of the scattering of the self, is recurrent in *Suites*. The "reflection" phenomenon is the catalyst in these poems for the speaker's personal and artistic search. Critics have noted the "self-reflexivity" that affects all of the arts of the early part of the twentieth century (see Roskill 163). It is thus telling that Lorca chose to call his *suites* "songs with reflection." Like the concentric circles produced by an object in water, intellectual "reflection" is the word as it encircles the object it purports to represent without ever embodying that object. It is also the physical and diverse emanations, filaments, echoes, and reverberations coming from the object and expanding in space from the original body. Consequently, Narcissus is one of the main protagonists in this collection, as the representation not only of the poetic speaker looking at his own reflection, but also of reality reflecting upon itself. In *Canciones*, narcissism reappears in connection with homosexuality and with the role of reflection in the speaker's personal search.

Through the exploration of the physical phenomenon of reflection, these poems seek an understanding of very personal and artistic concerns. Drawings such as *Arlequín ahogado* (Drowned Harlequin 1927), *Arlequín doble* (Double Harlequin 1927), and *Payaso con doble cara* (Clown with Double Face 1927, 1936) (Hernández 156, 193, 190, 207) give plastic form to this poet's ongoing concern with the evanescent nature of identity. The clown's face reflects the sense of pathos and ridicule he feels for his own inadequacy vis-à-vis accepted beliefs. While the "real" face is often depicted with wide-open eyes, the ethereal, dream-like double has closed eyes, to represent the subject's split between reason/reality and dream/subconscious. Like the cubists, Lorca was deconstructing an object to view it from different angles. Although later on he would distance himself from cubism's excessively cerebral style, the formal lessons he learned from it early on proved to be crucial in his later works.[6]

SUITES: "REFLECTION IS THE REAL"

Suites includes two prose sections, *En el bosque de las toronjas de luna. Poema extático* (In the Forest of Lunar Grapefruits [Static Poem])" and *En el jardín de las toronjas de luna* (In the Garden of Lunar Grapefruits 352, 366) where it is possible to identify what could be called the plot line of this collection. They recount a sort of "poetic science fiction journey" toward a garden "of un-blossomed seeds and blind theories." The goal of this mental, intellectual journey is to reach the country that never was but should have been, the "blind theories" that were never fulfilled, the unfulfilled world that trembles "in the highest plains of the air" (368) by focusing the traveler's eyes on "the wall of the future," the other dimension that *ultraístas* and avant-garde artists, in general, set out to explore. Lorca's garden is marked by stasis, with lunar grapefruits that seem to be under some kind of spell, and with words devoid of any reverberations. The forest/garden of the lunar grapefruits is Lorca's allegory for the realm of ideas, beliefs, and desires that culture and tradition have fixated into conventional forms, arresting any further development that would risk stability. As the knight in children's stories, Lorca's explorer sets out to break the spell placed upon the garden by the forces of conservatism and conventionality, keeping it from being what it desires and should be. His drawing *Camino y bosque* (Road and Forest 1924–1925, Hernández 41) reveals signs of the poet's questioning about which route to take in his life and art. The purplish, greenish, and bluish color of the road runs alongside a forest of colorful trees with curved trunks leading toward an undefined point. The thickness of the forest contrasts with the rectilinear road as two possible directions to take. The fauvist-like color treatment conveys the symbolical meaning of different, diverging paths.

Dressed with a suit of "luminous lace" and violet glasses (368), the traveler is well aware of the battle he will need to wage with "the gigantic dragon of Common Sense" (368) before reaching the garden. Written with capital letters, the dragon represents the whole package of traditional values from religion, history, social institutions, and formal education, in sum, the forces keeping the fruits of the garden in a suspended, hypnotic state to prevent heterodoxy and change. A more theoretical name for it is what Timothy Reiss calls the analytico-referential system in Western culture. This system upholds a relationship of equality between the semiotic discourse of language, reason, and the outside world; knowledge, in turn, seeks to articulate a vision of the totality of being, which explains the insistence on

causality, on absolute faith in objectivity and logic, and on the centrality of the subject. It is a system based on a network woven with the threads of truth, analysis, identity, denotation, and the outside world as referent. The power of this discourse is infallible because it is based on common sense (Reiss 359–360). It is thus a colossal enemy of Lorca's traveler and his goal to break the spell of such system. In his drawing *Pequeño dragón con tres cabezas* (Little Dragon with Three Heads 1928, Hernández 198), the three heads of the monster are tied by a rope to the wrist of one hand in the upper right-side corner. It would seem at first that the hand is leading the dragon but, upon closer inspection, both seem to be tied to one another in an unresolved state.

Símbolo (Symbol), the opening poem of *Suite de los espejos* (Mirror Suite 168), establishes the icon for the self-reflexive and visual conception of the whole collection: Christ, the truth and light of the world, holding a mirror in each hand. He could be called the "Christ of the mirrors," the symbol for the modern world for He preaches the truth of the reflection, that is, of the many perspectives of reality, of the decentralization of the subject, and of the reality of the image rather than the object. Christ occupies an iconic position in the world of art with Leonardo's "The Last Supper" as one of the most telling examples. In its application of a priori principles, Leonardo's work is paradigmatic of a total and complete work of art because nothing lacks its point of reference: all lines converge in the figure of Christ giving the work its total sense and meaning (Richardson 34–35). Lorca's Christ is something else entirely. He is the Light of the world because with the mirrors he multiplies his spectrum on earth. Faith, which is to believe without seeing, here means to believe in the multiplicity of mirrors, reflections, and diverse perspectives. The questioning of the aura of the work of art, of art's uniqueness and single perspective, in Benjamin's terms, is also present in Lorca's Christ, plus a challenge to the dogmatic exclusivity of the church's religious message. Instead of holding on to a central pictorial space perfectly organized, this Christ dissipates all centrality in recognition of a plurality of viewpoints.

The word *spectrum* was coined by Newton and comes from Latin meaning "apparition." And it was truly an apparition for sciences after Newton's observation. Following Descartes and Hooke, Newton experimented with light by projecting a ray through a prism at a distance of twenty feet. What he observed was a continuous spectrum, a rainbow of colors eight inches long, which led him to conclude that colors are what is pure in itself and that white is what is mixed. Colors are not visible when modifying the white light but only when dividing

it in its components. The display of colors when projecting the white light through the prism, like the reflections in Lorca's Christ, reveals the multiplicity and diversity in reality. The observation of the light spectrum had fundamental consequences in physics because it led to the discovery of the composition of stars, the fusion of magnetism, electricity, and light, the genesis of quantum mechanics, the atom's structure, and the expansion of the universe (Shlain 179). Einstein affirmed that light, which is color, is the quintessence of the universe. Lorca places Christ in the position of the scientist experimenting with light and its rays. His final exclamation—"I believe!"—is a proclamation of faith, not on what we don't see, as the church dictates, but on what we see in all its multiplicity, diversity, and uncertainty.

This initial poem poses a central question in *Suites*: the perspectival approach to reality, art, and identity, which *Sésamo* (Sesame 202) states openly: "The reflection is / the real." This statement contradicts the conventional belief that reflection is not real but an emanation from the real thing. Reflections are traces of what is or was; a sort of palimpsestic view of the cosmos. With such an assertive declaration to the contrary, the poet is dismantling the belief in absolutes; solids are not impenetrable for they can be pierced and explored, or static, as they project radiations or emanations. And as the investigation of reflections continues, revelation is never definitive since one reflection leads to another and another, and so on. The title, *Sésamo*, refers to the fairy tale of Ali Baba and the forty thieves. If like Ali Baba we succeed in penetrating the mountain of rules, prohibitions, and conventions, we shall be able to see a world of riches. However, such riches involve the real risk of losing oneself in the search because in its ever present reflection, Nature is a "eternal Narcissus" (202).

As Narcissus drowned in the many concentric circles diffusing the one image he wanted to grasp, Nature as Narcissus is reflection reflecting on itself, a realm where bodies and their reflections interchange endlessly, and which modern physics identifies as field theory. Field theory has been discussed in previous chapters, along with the role of scientists such as Faraday and Maxwell in its development. *Capricho* (Capricchio 238) offers a poetic rendition of Hayles's image of the field as a cosmic web of interrelated lines of energy. The changing moon and its rays become a spider in whose web the stars get trapped. This visual representation is rendered acoustically in other poems, in the form of sound waves emanating from a source, or takes the form of concentric reflections on the water. The viscosity of the image, with the moon trapping stars in its web, conveys the notion of

cosmic interconnectedness that other poems also develop, although it is here depicted with dark tones. The spider moon asphyxiates the stars and their light in the sticky web of its many layers of darkness.

Since the real is the reflection, as the speaker declares in *Sésamo*, it does not matter where we position ourselves in space and time. In this view, Nature is a mirror curved in on itself, on which everything is reflected while reflecting on itself. Like Being, Nature is a context of self-reflexivity, caught forever in the mirror stage. Einstein predicted that light would bend in the presence of material bodies, and Lorca's poetic intuition gives credence to that belief, which experiments had confirmed.[7] Grasping itself as the object, Nature is the realm where subject and object are present to one another in a specular relationship of mutual correspondence. This perspective alerts us to an understanding of the world and art as systems whose elements (lines, words, images) "cannot be arrested by centering systems" (Culler 164, 165). The reality of the "reflection" implies a distancing from any identity theory based on centrality, the legitimacy of the name, and unidimensionality.

With this first *suite*, Lorca contests the static view of the garden, which was also the nineteenth-century view of the world as immobile, presided over by Absolutes, with Capitals, and with transcendental idealism (Gray 65, 67). From the prism of the "reflection" phenomenon, traditionally one-dimensional icons are deconstructed and reality becomes a dynamic field, as objects reverberate visually and acoustically. The cubist way to convey this field of reciprocity on the canvas is via the technique of *passage*, which establishes the interchange between foreground and background and among the rhymes or echoes of various aspects of the painting. There are many examples of this technique in *Suites*. In *Réplica* (Replica 170):

> Only one bird
> sings.
> The air multiplies
> We hear through mirrors.

The "replica" is a sonorous reflection that the air multiplies. In *Abajo* (Below 190):

> The starry space
> is reflected in sounds.
> Spectral lianas.
> Labyrinthine harp.

On the lower level of earth, with the noise and activity of modern progress, cosmic harmony is reflected on the reverse in the form of confusing sounds. The view in this brief poem presents a sort of mirage, an x-ray of the cosmos. The light coming from the stars fills the space in the form of spectral filaments that, fusing with the sounds below, constitute a labyrinthian harp. As a result of this field view of reality the principle of the autonomy of things comes into question, as well as the autonomy of the subject who no longer stands separate from things but rather immersed in their midst, trapped in the viscosity of the field. The three dimensions of space become fused with the fourth dimension, time, in the spacetime continuum. Several suites explore this dimension where bodies lose their stasis and become plastic.

In *Tierra* (Earth 170) we learn that we walk on the unsilvered mirror of the Earth, therefore it does not reflect but has the capacity to make things transparent: what is on one side is the same as what is on the other. This reversibility allows imagining a world where roots would grow up in the air and peaks would be found in the ground. Therefore, Earth is no longer the solid substance once believed to be. With Earth losing opacity, what is below would correspond to what is above, and death and life, the male and the female would interchange.[8]

In *Nocturno* (Nocturne 222), each of the three stanzas repeats *Miro* (I stare), stating unambiguously that this is the speaker's own observation. He first looks at the stars on the sea becoming drops of water, and then in his heart becoming nuclei of aromas. By moving stars from the sky to the sea and to the human heart, their form dissolves into a reflection of what they were first. The closing couplet has the speaker looking at the earth, which appears dark and supposedly solid, although it is filled with shadowy areas. In turn, the sea and the heart are laboratories for change, alchemic spaces for endless transmutations.

Just as Lorca's findings reveal that the constitution of matter is based, to a great extent, on shadowy, interstitial, spectral areas, the understanding of the atom as the smallest form of matter has been literally shattered by the continuous discoveries of new particles. After discovery of the protons, electrons, and neutrons in Lorca's day, the quark was believed to be the smallest form, but subsequently many more types of quarks, thirty at least, kept being discovered (Jones 114, 116). Under a magnifying process, opaque bodies reveal a microstructure of small transparent and semitransparent pieces separated by spaces that could be filled with other substances such as fluids

of a greater or smaller density than solid particles (Sepper 131). The attention Lorca pays to the "reflection," the "spectrum," and the "shadow" reveals the subversive nature of his voyage as he discards the conventional discourse on presence, solidity, and materiality.

Just as in language Derrida's *différance* points to the lack of fullness in the sign as it is inscribed by its opposite, nothing is fully present in the cosmos since the geodesic curve defers/distances light between its point of emission and its manifestation. If "gram," the term used by Derrida to refer to *différance*, corresponds to the trace of nonpresence in language, Lorca's spectral is the underside of the visible that makes the body never present altogether. As Lorca's speaker realizes the spectral nature of reality, he becomes aware of the many transformations and metamorphoses involved in such a system of *différances* and of the motion affecting all things (*Positions* 24, 26, 27). The *suite* notion itself represents the continuous change that all things undergo in reality. As the *suites* treat a variety of themes in brief poems, the view shifts as the same topic is looked at from different perspectives.[9] These transformations are forms of the reflection and echo phenomena, of the form and its absence. According to Derrida, "Subjectivity—like objectivity—is an effect of *différance* . . . inscribed in a system of *différance*" (28). The letter –a- in *différance* indicates that the relation with the present, with reality, with being is always deferred. And it is deferred due to the principle that an element functions and signifies only when referring to other elements, past or future, in the system of traces. The stars are dead by the time the light reaches us; human life is also a star of borrowed light as it lives on burning its own light.

Caprichos (Capriccios 196) is a *suite* dealing with what could be called the spectral side of language, that is, the letters constituting words to designate reality. To scrutinize the letters forming words corresponds to revealing the skeleton of a system that appears as natural and identical to the reality it represents. *Pirueta* (Pirouette 198) considers the death of the alphabet and, as a consequence, the death of reality, since words are wings sustaining life. Bohr, one of the founders of modern physics, said that we are suspended on language. The basis for such statement resides in Bohr's difficulty in describing a phenomenon as being a wave and a particle simultaneously: when describing it as a wave, we exclude its corpuscular features, and vice versa. This is due to the fact that in language, the act of speaking is built on the distance between subject and object. According to Bohr, "we must, in general, be prepared to accept the fact that the complete elucidation of one and the same object may require diverse points of

view which defy a unique description" (cit. Hayles, *The Cosmic Web* 52–53). Bohr urges us to continue polishing our descriptions of reality, keeping in mind that they always depend on the perspective we take.

Suites is a book of exploration of the cosmos by means of light, of its refractions, and reflections; the *suite* format provides the flexibility to deal with the suppleness and variability of these images and to approach them from an equally diverse number of viewpoints. In studying light, Lorca is trying to reveal the nature of reality and, subsequently, how to convey it by means of language. Optics is the discipline that studied light as a physical body, a corpuscle, which opened up the way for an examination of matter and its laws. If light is a physical body, then it is susceptible to the kind of analysis of bodies in fields of force, and this approach allowed speculation about what forces at the microscopic level were responsible for the phenomena of reflection, refraction, inflection, and the like. It also allowed speculation about the interaction of light with other matter and it suggested an intimate connection between heat and light. It was Newton who gave birth to the science of colors and determined that they are not in things but in sensations, in what was experienced in consciousness. Bodies are not colored but simply have a disposition to reflect and absorb different kinds of rays differently, and the rays themselves are not colored but color producing (Sepper 76). In Lorca's *suites*, there are many examples of light rays coming into contact with water where they are either reflected or refracted. In either case, light reveals the noncompact nature of things as they either submerge in the waters or dissolve.[10] Light discloses an appearance of things that depends on the amount of rays that those things carry or allow the eye looking at them to see. Likewise, colors do not reveal anything intrinsic to the object for colors are not in the objects; they are characteristics of the object. Color does not adhere to the thing but to the light ray that illuminates the thing. What appears to be blue is so because in the reflecting light of that object there is a predominance of blue rays; the same applies to all other colors (Sepper 177, 48). Since objects do not have intrinsic colors, their reflections are what we have to go by to understand their nature.

In the suite *Palimpsestos* (Palimpsests 210), the poem *Ciudad* (City) presents opposite but complementary scenarios: a city and the forest, the air and the bottom of the sea, and the houses and forests, which may seem distant, but in reality they are interrelated parts of the same manuscript across time. The poem refers to the different times in the geological development offering a particular version of

historical geology. In cubist paintings, the city often represents the relationship between the activity of modern life and time as duration in the Bergsonian sense (Antliff and Leighten 93). Thanks to the *passage* technique, cubist painters dissolve the contours demarcating houses, buildings, roofs, and sky. One of the principles on which we base our knowledge of the earth is superposition whereby the most recent strata lie on top of older ones forming a sort of palimpsest. In the next stanza, the levels of reality lose their conventional demarcations: air and sea, tree branches and coral reefs fuse with one another. The final stanza refers to space and to the many waves of energy traversing it:

> Over the new houses
> an oak grove begins to move
> And the sky has enormous
> crystal curves.

The whole scene seems to be swaying in waves and curves of energy. That the curves are made of crystal suggests the transparency of the scene, of different planes—sky, city, and country, land and sea—reflecting each other. This cosmic palimpsest denies linearity and causality, as well as the conventionality of dividing time into past, present, and future. It purports, instead, the reality of confluence.

Corredor (Corridor 212) explores time as a process moving from a point of fullness, the new and blue sky, to dissolution into the night. The high and vaulted corridor is a space of transition, of passage, whose background is time. As the two gentlemen "advance" along that corridor of time, represented by the diurnal changes in the sky, their "being" is depicted backward, so that the longer they live, the younger they become. Whereas the process moves forward, the action refers back to what the gentlemen were "before": "two gentlemen stroll by / who once were two monks." The following couplets repeat the same process as the "gentlemen" continue their walk while before being "gentlemen" and "monks," they were "hunters" and, finally, nothing or night. In this development, the originating and future points coincide, thus revealing a circular, rather than linear, nature of time. With the couplets circling around the refrains, the poem forms a sort of spiral that is, in itself, an existential walk in which the gentlemen are involved. These various devices convey the dynamism of the context as a field of reflections. Like many cubist paintings, this poem does not give precedence to the foreground over the background, and vice versa. Its meaning does not come from privileging one element

over the other, but rather by establishing the similarities and interconnections within the whole (Hayles, *The Cosmic Web* 174).

This poem questions the premise in classical mechanics that it is possible to establish an unambiguous time line for events that have occurred in different places. Those "gentlemen" were monks and hunters in a time before. However, the poem refers to those states not in a linear fashion, but rather as events whose existence in time is still part of the present time of the poem. As in the Saussurean conception of language, meaning here is not determined by a one-to-one correlation between the word and the referent, but by the relations among elements in the system. The meaning of the walk/poem is determined by the various "identities" of the gentlemen as events that, though they may have occurred at different times and in different places, all come together to reveal the actual meaning of that walk. This poem also illustrates some of the new scientific perspectives on time and space that cubists were attempting to articulate on their canvases. Cubists favored the flexible quality of Bergson's notion of time. As a manifestation of a life force, or *élan vital*, Bergsonian time functions in a nonmechanical way (Hayles, *The Cosmic Web* 18). Einstein's revelations about the interrelation of time and space would also have a major impact on modern art. Polish mathematician Hermann Minkowski called that interrelationship spacetime, which became the "absolute," replacing Newton's absolute of space and time separately. Spacetime responded to Einstein's findings about physical reality as a field of interacting systems rather than isolated entities, as had been the case in Newtonian mechanics (Hayles, *The Cosmic Web* 47). Lorca's poem seems to be presenting the gentlemen's walk as an event in which the dimensions of space relate to those of time. The sky changes color to indicate the passage of time while the gentlemen advance in their walk through time and space with their being and context ending in dissolution. Advance is regression, while origin coincides with the end.

The reality that art is a construction based on conceptual rather than perceptual structures is illustrated in "Venus" (220). It opens with a declaration of direct evidence:

> Sure enough,
> you have got two big boobs
> and a pearl necklace
> around your neck.

Those lines give the impression that the speaker is looking at the classical representation, which, since the Renaissance, often pictured

Venus as a female reclining figure looking at herself in a mirror held by Cupid. The second stanza, however, reveals that he is actually looking at the star Venus in the sky (the pearl necklace being the stars in the constellation). The poem reflects not the direct perception of the "real" star, but its articulation through art. As the poem says, "sure enough," reality imitates art, rather than the other way around. The affirmation "I see you" is one in which the "seeing" does not collect evidence directly, but filters it through the different pictorial palimpsests representing Venus. In the last couplet "We are looking at you through a lens / the Renaissance and me," perception is symbolized by a tangible instrument that distorts the object being perceived. However, as we begin to conceive of the image through that lens in the various paintings where Venus is represented since the Renaissance, the "real" star of Venus recedes in our perceptual field. In physics, the time it takes for the light from Venus to reach our eye determines that the Venus we see is not the real, current Venus, but the Venus from the past. Venus the star is the Venus we have learned to perceive through the artistic and scientific lens.

In *Mundo* (World 278), there is a non-Euclidean exploration of the world: earth and sky are the eternal angle bisected by the wind. Charles Blanc, an academician who spread many of the nineteenth-century ideas regarding correspondences, said that "Straight or curved, horizontal or vertical, parallel or divergent, all lines have a secret relation to emotion" (Gray 89). This poem illustrates the emotional meaning of the lines. Although initially Lorca depicts earth and sky as an angle, he later refers to them as parallel lines whose eternity resides in the fact that they never intersect. The wind, synonymous with desire, is the bisector, the line crossing the eternal parallel. If we visualize those lines, the bisector would be a perpendicular line crossing them. In Newtonian terms, desire would correspond to the diagonal of the so-called Parallelogram of Forces, a body being acted upon by two forces simultaneously (Rankin 123). In this conception, desire is affected by both, sublimation and earth-bound desires, and can represent each one separately. With a big leap of poetic license, Lorca makes the lines meet in the kiss, the heart, to which he refers as "without echoes," a point of truth at which the universe begins and ends. Lorca takes the heart, kiss, or human emotion as the origin of All, the point of departure for the angle of eternity. From that point, sky and earth are dimensions traversed by the line of desire. The heart is the only reality devoid of echoes and reflections because for Lorca it is the original truth.

The category of irrefutable truth, as Euclid's geometry was considered, came under serious attacks since mid-nineteenth century.

Investigations on alternative geometries carried out by the Russian Lobachevsky and the Hungarian Bolyai established empirically the curvature of space. Karl Gauss, Riemann, and David Hilbert proved the falsity of the theorem of parallels by applying Euclidean geometry to the geodesic curve of the earth; neither on earth or sky are there true parallels. In order to create his spheric geometry, Riemann got rid of Euclid's postulate and first axiom: "Only one straight line can pass through two points." On a sphere, through two points it is possible to draw *in general* only a big circle (which would play the role of a straight line in our imagination) with just one exception: if the two points given are diametrically opposed, it is possible to draw an infinity of great circles through them (Poincaré, *The Foundations* 57). When Riemann discovered that space is a hyperbolic curve, geometry ceased to be an a prioristic science. Flat or planar trigonometry becomes elliptical or spherical trigonometry, that is, a nondeterministic science. Gravity and magnetic, seismic, electric, geothermic, and radioactive measurements depend and change according to geodesic relativity. The object of study will have certain properties depending on the place it occupies, on its projection and association with the elliptical and spherical surface of the earth. The properties of substances (magnetic force, density, electrical, thermal, and radioactive conductivity) will depend on the condition and place that those substances occupy in the geological structure and in the geodesic sphere. Hence, when projecting a triangle on a curved surface, its shape changes.

Riemann's vision is so ample that it is possible to imagine spaces where the curvature changes. On an irregular surface it would not be possible to move a figure without deforming it. Euclidean geometry denies that forms in movement are deformable. Riemann's geometry discards such nondeformability giving way to a geometry where figures twist and contort (Dalrymple Henderson, *The Fourth Dimension* 6), a possibility that breaks away from the linear perspective dominant since the Renaissance. In view of this new conception of space as curved, elliptical, and sinuous, the three-dimensional organization on the two-dimensional world of the pictorial canvas appears as arbitrary. In the non-Euclidean, geodesic, and hyperbolic geometry, perspective is submerged under the line of the horizon and swallowed by the convex curvature of the earth. The sphere, ellipse, and hyperbole constitute a space that twists in folds and invisible spaces. In 1887 Poincaré declared his principles on geometry rejecting Kant's a priori axioms about space. For Poincaré, space cannot be measured; only objects in space can be and their behavior, since they are in motion, is

unpredictable (*The Foundations* 16). The central place that the heart occupies in Lorca's "World" corresponds to the sphere of the earth where parallels do meet since, as the new geometries prove, parallels do not exist. Lorca's world as an immense spherical heart represents the merging of subject and object in modern physics. Love is Lorca's non-Euclidean geometry.

In the context of *Suites*, as a book of exploration into the universe and cosmic phenomena, it is not surprising, then, that Lorca would dedicate a *suite* to "Sir Isaac Newton" (306). Its several poems form a sort of narrative regarding cosmic mystery and the attempts to shed some light onto it. The tone, however, is far from the awe and admiration normally associated with Newton's name. The introductory poem ridicules the scientist, with the apple falling right on his big Anglo-Saxon nose, a nose incapable of "smelling" the truth about the apple. This "great Newton" appears far from "great," as he scratches his nose, wondering about the meaning of what just happened. It is as though Lorca were pitting the laws of science and nature against one another: the laws of physics warring against the origin of the world (the apple in Genesis), suggesting that nature continues to present enigmas that science cannot understand.

In *El último paseo del filósofo* (The Philosopher's Last Walk 308), Newton's scientific discoveries seem to be falling by the wayside as worms gnaw through the apple. The wind humming under the trees and the river beneath the branches provide the background where Nature continues its mysterious course. In view of this situation, "Wordsworth would have cried," declares the speaker. The English poet's belief in the value of rustic, Rousseaunian life close to nature would be dismayed by Newton's attempts to penetrate its peace and harmony. This reference indicates that Lorca must have known about the lines Wordsworth wrote when he saw the statue of Isaac Newton in the antechapel of Trinity College in Cambridge. Wordsworth saw the statue bathed in the moonlight, a similar moon to the one Lorca describes in the background, and wrote: "Newton, with his prism and silent face, the marble index of a mind for ever voyaging through strange seas of Thought, alone" (Rankin 5). Like Wordsworth, Lorca emphasizes Newton's loneliness as he faces the daunting task of deciphering the universe. But Lorca goes further as he ridicules Newton's attempts: "The philosopher was striking / unimaginable poses / waiting on another apple." Newton's "unimaginable poses," and his face sinking in the big moon's reflection, provide a pathetic picture of science facing the inscrutable mysteries of the universe.

Lorca calls Newton the Adam of science, but does not credit or blame him for what he found or did not find. Nor does he find the biblical Adam guilty for having wanted to probe into mystery. If Adam learned beauty from eating Eve's apple, Newton learned "a Pegasus loaded with chains." The knowledge achieved by science is not liberating, according to these lines. Newton's discovery, that the force of gravity gives masses on Earth their weightiness, also provides undeniable evidence that our destiny is tied to this earth. Therefore, we, too, are like a chained Pegasus: our dreams and imaginations tied by the laws of physics. It is then understandable that Lorca would associate Newton with Adam: by acquiescing to the apple's temptation, both signed our destiny on earth.

When at the closing the poet traveler reaches the door to the unyielding garden, he is asked to swallow or spit out Adam's morsel; human knowledge serves nothing when facing death at the end. The toothless mouths of the witches at the garden's entrance are holes of nonarticulation. With this baroque view of *desengaño* (disillusionment), the speaker puts an end to his personal and artistic journey to the garden. Breaking the spell has brought about a great deal of reflections floating in the air like loose pages, finally dissolving.

In *Suites* Lorca develops a cosmogony where knowledge is conveyed through mirrors, screens, water reflections, and the reflective nature of the word itself, as language encircles the object unsuccessfully attempting to fuse with it. Lorca's attention to reflections, mirrors, and lenses makes the reader wonder if he had in mind Newton's theories about optics, colors, and light. He certainly agreed with Newton in rejecting Descartes's view of the universe as a machine of matter and motion, and would have approved of Newton relying on Alchemy to rationalize that Nature is not a machine, but a living organism (Rankin 108). In the tension between reductionism and holism in sciences, Lorca would certainly side with holism. His *suites* provide a view of Nature as a complex web of interconnections between its various parts (March 51) that replicates the theory of the electromagnetic field and favors mobility but also uncertainty, explaining the young poet's expressions of despair at not having anything solid to hold on to.

In the writing of the *suites* Lorca visited many of the tenets in cubism and the sciences, while remaining faithful to his belief in mystery and the limitations of reason. He adopts cubism's interest in geometry as a way to understand and speak the language of the universe. He does not, however, impose rigid laws on the universe in a Cartesian fashion, but learns from his observations. His less-than-flattering

portrayal of Newton reflects Lorca's rejection of a method that, seemingly liberating at first, reduces Nature to a cool and analytic examination, often losing sight of Nature's mystery and beauty. Lorca followed in the footsteps of the romantics who spoke of the energy in Nature as a mysterious, vital force behind all growth and creativity (March 52, 56). Science would appropriate the term and place it at the core of physics, but for Lorca, it continued to hold a secret no science can fully decipher. He considers the scientific approach, but rejects the positivistic tendency to reduce all enigmas to some clear-cut formulas.

Lorca's detailed analysis of the "reflection" has revealed the reality of transmutation and change affecting all aspects of the cosmos. As things morph, their previous forms emanate like reflections, which still keep their identity while also being the relic of what they were before. This state of life/death is very intriguing for Lorca and he perceives it all around him and in his own being and writing. As he proffers utterances, the echo that fills the air, as well as the echo from previous utterances, mix so that the utterance is what is plus all the spectral traits from previous utterances. Language is thus a cemetery of living shadows, spectral forms communing with actual presences. This view opposes any stasis. Light reaches us later than the point of emission due to the geodesic curve. The "reflection" phenomenon corresponds in Lorca to a diving into depth where concentric circles lead into further layers; the surface phenomenon becomes depth.

CANCIONES: SELF-REFLEXIVITY OR THE FUNCTIONAL RELATION AMONG THE ELEMENTS

In a letter to his friend Fernández Almagro (January 1927), Lorca describes the writing of *Canciones* as "a serene, acute lyrical effort," which he considered "great poetry (in the sense of nobility and quality, not of worth)" (*Epistolario II* 25). The book merits its author's respect because it seems to have achieved what he found lacking in other works: a well-thought-out project where a conscious use of form succeeds in conveying personal truth. His comments suggest that he perceives it as great poetry, not in the conventional sense of a great work of art, but because of what it represents as an artistic and personal accomplishment: he is satisfied with the thought that had gone into the writing of these *canciones* and with the personal truth they express. In open rejection of the romantic emphasis on emotions and passion, Lorca calls for an attitude of serenity in facing the work of art. This is not new because already the poet/traveler in *Suites*

began his journey to the "garden of lunar grapefruits" with a serene attitude (354), and in his lecture on Góngora, Lorca urges the poet to remain in control as he faces the many alluring images in the forest of creativity. Watchful not to fall for enticing but false poetic images, the poet should follow Góngora's example and carefully order and analyze his poetic landscapes (*Conferencias I* 110).

As the title indicates, *Tres retratos con sombra* (Three Portraits with Shadow 452) addresses the connection of body and shadow/reflection that has been explored previously. These are three portraits—supposedly pictorial representations—plus the shadows they project, which, because of the nature of shadows and reflections, are the same and different from the body from which they emanate. While the shadow is the projection of the body, it is also the dissipation of its solid form; these three portraits are built on the basis of this paradox. In the three cases, the so-called shadow poem, or the spectral or reflection phenomenon, possesses more presence than the main or body-poem, thus pointing to the flimsy distinction between body and shadow. In "Verlaine," the "main" poem in the first portrait, the song is paradoxically "The song / that I will never speak," so that what was expected to be the visible, auditory, or material body is actually an unuttered (*inédita*) song. However in *Baco* (Bacchus) supposedly the shadow to "Verlaine," what was expected to be the spectral becomes the tangible: "Green rumor intact / The fig tree opens its arms to me." The "green rumor" has integrity even though rumors are evanescent; the sexual connotations of the fig tree materialize in its outstretched branches and its panther-like shadow threatening the speaker. The shadow to Verlaine is unbridled passion. In the second pair, "Juan Ramón Jiménez," the focus is on the color white, an abstraction that takes concrete shape in the dead girl of the "shadow" poem called "Venus." Although both Verlaine and Jiménez are poets identified with lofty artistic ideals, the shadow for Jiménez is not the persistent rumor of desire lurking under Verlaine's musical and suggestive poetry, but the presence of wound and pain and the dimension of depth. In the third portrait, "Debussy," the sensorial music of this composer is a game of shadows and reflections alongside the watercourse. It may be the cause of Narcissus's demise in the shadow poem of this last pair; Narcissus sees the reflection and falls for it.

Under Verlaine's musical and suggestive verses unconscious forces and irrational phenomena lurk; Jiménez's search for pure poetry involves pain and inner struggle, while Debussy's explorations about pitch and unexpected modulations may end up in solipsism. Through these games, reflections, and material presences, light and shadow are

shown to be interdependent. In the process, long-held assumptions come into question, such as: the solidity of matter and identity and the evanescence of the spectral, and the difference between presence and absence.

As Walters notes, the so-called main poems focus on a literary or artistic figure (Verlaine, Juan Ramón Jiménez, Debussy) while the shadow poems focus on a mythological figure (Bacchus, Venus, Narcissus; 229). If the inversion first noted is correct, the presence of "real" figures is counteracted by mythology thus blurring conventional demarcations of what is real and what is fantasy, art and life, the body and its reflection. These pairs interact by shifting the emphasis from one to the other poem. As attention is placed on one, the other emerges and vice versa, forcing us to keep both poems in sight alternately and simultaneously. Furthermore, the portrait strategy corroborates the pictorial, theatrical tendency in these songs as they seek to "illustrate" the theorizing about the cosmos, poetry, and life. The "Verlaine-Bacchus" coupling fuses the pure, lyrical, and musical world of the French poet with the orgiastic, carnal, and earthy world of Bacchus or, in other words, the ongoing interchange between spirit/flesh, word/thing, Apollo/Dionysius that Verlaine himself experienced in his own life. That's why Verlaine conveys a poetic world of the unsaid, which is paradoxically characterized by fullness: of lips, of hours, of a living star that never fades. It is a song of plenitude that, as the poet says, cannot be uttered because it involves shadowy regions. Bacchus is the shadow always "in wait," ready to take over; it accosts the poet in truly frightening ways. Likewise, when focusing on Bacchus, Verlaine resurfaces. Neither may be eliminated or considered without the other so that the view is one of forms coming forth and receding, changing in the plastic medium where they move.

The song of which the speaker dreams but will never utter is fullness, as encompassing purity and passion or light and darkness. Hence it can only be glimpsed as a dream. On the reverse, Bacchus's song reflects the underside of plenitude as pressing desire in the form of insistent motion: the fig tree extends its branches, its shadow accosts the poet, the moon counts its dogs, days and colors change. Being "green intact rumor," the fig tree represents the fullness of sexuality and the attraction it exerts on the poet. The sensuality of green is synesthetically related to "rumor," as an all-enveloping sound. Its overbearing lurking haunts day and night the poet's laurel wreath, that is, the glory in the Pantheon of consecrated poets. While Verlaine aimed at poetry with the ethereal purity of music, the many rumors, shadows, echoes, and reflections of undefined forces

kept intercepting. The Apollonian Verlaine is confronted with the Dionysian green of sexuality and shadow, the air loses its pristine quality as it is marked by wounds of suffering and the word, in turn, is intercepted by many other meanings and connotations that decenter and, at the same time, constitute its full sense. The resolution, if there is such, is not to opt for one or the other, purity or passion, but to accept the contradictory presence and reality of both.

In Juan Ramón Jiménez, infinite whiteness evokes the unmarked white page or canvas and the stage of full light prior to its deployment through the prism of writing. It corresponds to the full but unuttered song in "Verlaine," represented here as the realm of lost fantasy. Hence, the color white walks on a "mute" carpet, which corresponds to an environment where light is noncurved because there is no gravitation. Whiteness and nongravity are equal to muteness or silence and, as the third stanza indicates, they are synonymous with blindness (*sin ojos*) and immobility. This overall picture of stasis recalls the stillness in the garden of lunar grapefruits with the difference that there is here some tremor inside: "But inwardly he quivers." Lorca's focus on imponderable rumors, shadows, and tremors traversing matter recalls Dalí's, and even Duchamp's, focus on the *mince* and *ultramince*. Is he, like his fellow artists, seeking to give visual, concrete form to such substantial, in their almost insubstantial nature, aspects of reality? The "infinite white" does not remain intact because Juan Ramón Jiménez's fantasy left on it a pure and long wound, the markings of human experience.

"Venus," as the shadow counterpart, evokes the world of beauty that the mythological figure represents. However, the Venus here is not emerging from the sea foam because she is dead in her seashell. Her nakedness suggests an essential form emerging "in the perennial light" of eternity. Is it that this icon of perfection and beauty is no longer operative? The world looks at her from the other side of the window, observing how even icons and ideals are subjected to "infinite transit." Those panes separating the dead Venus from the world convey the hardening between the two realms of perfect beauty and imperfect world. As "lily of cotton and shadow," the world is represented as Gabriel's lily in the Annunciation, a possible reference to the poetic word. If so, the word/Gabriel would attempt to sooth Venus's pain ("cotton"): the world brings a healing word to a dying icon, energizing it with life. Only a new Annunciation could revive that white, abstract world of Venus. And so it seems, because the young dead woman's curvy hair swims through the waves/sheets of her bed/ocean, diving into its depths. Her shadow or reflection points to

the further recesses of reality. Below the title, a line reads "*Así te vi*" (I saw you thus). The poem thus presents the poet's view of Venus as poetry that does not aim to higher planes, but rather it descends into the spiraling waves of depth.

In "Debussy" (456), the "material" body is the shadow of the poet gliding over the watercourse and preventing the frogs from seeing the stars; he is thus a presence in close contact with the earth and with reflections or shadows. His shadow is compared with a huge violet-colored mosquito, which shows lack of brightness but vibratory power, possibly a reference to this composer's music as working around the same pitch or modulation. The hundred crickets, an image for the vibrating shadow, try to turn into gold the light alongside the reeds. When light arises from the speaker's chest, the place of the heart, it coincides with the light reflected on the water: both lights are shown to be the same. The vibrating activity of mosquitoes and crickets resounds in the poet's chest in an interplay of light, shadows, and sound, which would correspond to Debussy's music bringing sound from lifeless silence. However, it is important to note that the light of creation is a reflection in the water, not the light itself. Shadow and the spectral and mute can be energized by interacting with vibrations of sound and motion.

It is thus fitting that the "shadow" poem to Debussy focuses on Narcissus, the master and victim of reflections. Just as Debussy's shadow in the waters emerges as light from the composer's chest, Narcissus is attracted to a reflection with the difference that there is no vibration in this scene, but total hypnotism. Narcissus is attracted to the rose inside the concentric circles, but inside the rose there is another river leading to a continuous process with no visible resolve. Fusion is not possible as reflections continue. The enigmatic closing: "When he vanished into the water, / I understood. But I shan't explain," suggests that fusing with the reflection implies dissolution. As both body and shadow are intertwined, sameness dissolves difference. Narcissus drowns when attempting to fuse with his image just as light bumps into itself when seeking itself.[11]

Lorca shares with physics the belief that reality is not the solid form we capture with our eyes, but the myriads of waves, tremors, and currents crossing space and time. Solidity is just an appearance as it is traversed by the wounds of human suffering and experiences. To stick with Newton's absolutes is to have a one-dimensional view of reality that denies its richness as well as its uncertainties. Binding, Sahuquillo, and Walters identify the "other river" inside the rose in "Narciso" with homosexuality. Homosexuality would then be the

"other" within the fullness of the rose, which, consequently, is no longer as one-dimensional as it seems in appearance. The reflection that mesmerizes Narcissus simulates wholeness and the dream of unity and sameness. Narcissism and homosexuality coincide as both seek to fuse with the reflection of sameness. Lorca has developed this sophisticated gallery of portraits to delve into the nature of poetry and passion, reality and the shadow, identity and difference. The fusion does not seem viable as it ends in sterile sameness. The speaker is caught in a cosmos of endless reflections.

At the book's closing, the poet sees himself as a version of Atlas, for he is entrusted to capture in his writing something as evanescent as light (*Canción del día que se va* [Song of Departing Day] 512–515). That the poet carries light from East to West indicates the cosmic dimension of his work, of his writing following the geodesic curve of the light. From his earlier goal of breaking the spell of stasis, he comes to the end of *Canciones* to declare the difficulty of his task but also his commitment to maintain the game of light and all its reflections, no matter how painful it may be. As Atlas, he will carry the light of his words and their myriad of reflections and reverberations of other words. Like light bending according to the geodesic curve, poetry in these collections manifests the evanescent, iridescent nature of reality.

Canciones testifies to the poet's commitment to his work as Atlas, supporter of the cosmic edifice with his words. Shadows and reflections are alive and in motion but to follow their path, and even more, to desire fusion with them, leads to death, as it does with Narcissus. The reflection is an imponderable that continues to reproduce itself in endless concentric circles until it dissolves. In the case of homosexuality, fusing with the reflection is also a dead-end. The circularity of these games of sameness and reflections is an absurd and painful repetition. Different times of the day, with changes in the light and the winds, are portrayed in a variety of scenes revealing the flimsy texture of reality and its reliance on sensations. Although the knowledge that comes out of these explorations is more alive than any system of fixed truths, it is also very impermanent. Extreme purity or passion is equally inoperative in *Tres retratos con sombra*. Instead of remaining fixed, these portraits move from the foreground to the background with their respective shadows.

Lorca's ongoing attention to reflection in these two books comes, then, to mean quite a subversive enterprise for it implies the fracturing of the spell in which conventions have held beliefs in stasis, and, consequently, the recognition of uncertainties and impermanence. Under the guise of simplicity and lightness, *Suites* and *Canciones*

have carried out an in-depth exploration of the nature of light, the quintessence of reality, and found that "evanescence" is at the core of reality. Like modern physics, these books confront the untenable belief in the solidity of matter. As the Atlas of the cosmos, this poet knows that he is not carrying a heavy, solid construct, but one made of winds, bird songs, and light; the effort involved in such task has to do precisely with the difficulty in holding on to a world that constantly threatens to evanesce.

Closing Remarks

This book has examined twentieth-century Spanish poetry as part of that era's rich cross-pollination among different cultural fields; it has examined the interactions of works of poetry with other art, such as cubism, but especially with discoveries in physics. Rather than being separate or opposed to art, modern physics moved to the forefront in the overall cultural avant-garde, and to a certain extent it could be considered its leading expression. The fact that terms such as relativity, electromagnetism, ether, wireless technologies, and the fourth dimension were used frequently in cultural circles and by the general public points to an awareness of changes in the conventional worldview, which artists, more than others, assumed and incorporated into their own works. This book has shown that an important cohort of Spanish poets, whose works have been consistently and almost exclusively examined through an artistic lens, were aware of and reacted to the drastic changes in physics. Those changes affected their understanding of the world, and the poets incorporated them into their project of artistic renewal.

This book thus has placed these poets and their works within the broader context of European Modernism. It has also shown that the avant-garde had a definitive impact on these authors, contrary to the conventional belief that they brushed through this period quickly to move on and focus on more important, enduring endeavors. As part of a cultural world inspired by ideas of renewal and modernization, as heralded by Ortega y Gasett and the intellectuals around his *Revista de Occidente*, the avant-garde promoted the necessity to change, to move away from romantic and symbolist expressions and to find the true reality that years of conventions had veiled. The political and social unrest in Spain since the nineteenth century, culminating in the 1898 defeat by the United States, contributed to a crisis in the country that impacted all aspects of the culture and, most importantly, its own sense of identity. Understanding the critical nature of the situation, intellectuals led the movement for change and renewal, exploring new epistemological venues, traveling and making contacts

with their counterparts in other corners of the world. The country, in turn, opened up its borders to intellectuals from Europe seeking to escape from World War I. This was no doubt a challenging time, but it was also filled with energy and the spirit of change and renewal.

The goal for the work of art was to reflect reality as seen by the artist, by his focused attention on the world and things. The artist's particular way of looking, and looking beyond the surface, became the determining factor in the apprehension of what constitutes reality. This scrutiny of the external object coincided with the exploration of matter in physics, as artists and scientists felt the same need to reexamine their long-assumed views. By establishing analogical links between poets and physicists, and their correspondences with cubist techniques, it has been possible to see their common desire to overcome conventions and established beliefs, to look at reality with eyes free from the expectations of habit. As attention turned toward the object, poetry turned toward its own making, searching for meaning within the confines and in the interstices of its artistic space. Poets, like their fellow artists and scientists, pushed the limits of their own art, deconstructing accepted views and producing works that are challenging because of their self-reflexive, experimental nature and because they resist a conclusive viewpoint, opting for openness and uncertainty.

Scrutinizing reality becomes one with rigorous examination of art and creation. The world and cosmic phenomena become the analogical referent to reflect on writing and creating and on the connections between the word and the world. While physicists were seeing Newton's rigid models melt down in the malleable world of relativity, artists exposed their medium to contortions of imagery that often challenged rational understanding. The creative realm, often referred as the SHE, is far from the ideal figure in romanticism. Instead, SHE is a highly electrified realm that only the sensitized poet*/voyant* can perceive. The identification that these artists established between their state of hyperconsciousness and the surrounding energy found echoes in physicists studying the fourth dimension and the electromagnetic field. Artists and scientists thrived on the richness of their perceptions and celebrated their impermanence and uncertainty. These poets realized the precarious basis of the knowledge they achieved as their sensations shifted, as light dissolved in reflections, and as chance became an essential part of reality.

Pedro Salinas depicts himself as a new Prometheus, new because his burden is not a heavy, solid stone of old beliefs and conventions, but a world of fleeting, changing elements that seems to slip through

his fingers just as he tries to give it shape in his poems. In tune with the physics of relativity, field theory, and quantum mechanics, this poet senses the malleable, virtual, and chancy nature of reality as undefined bodies and shadows interchange and cross borders in his poems. While this indeterminacy might be construed as the labyrinth of the modern world, Salinas finds his own Ariadne in the world of new technologies, as the many threads of modern inventions of communication connect different and distant aspects of reality. These advances provide a new, unconventional way of understanding reality. They also confirm that the basis of reality for this poet is the uncertainty that physics had already identified, corresponding to invention and *malentendues* in writing. Like reality, language is a flimsy construction made of chancy cards, but also open and in an ongoing process of creation.

Jorge Guillén's acute and attentive look at reality reveals matter and the elementary aspects of reality in all their radiance. By means of sensorial impressions, this poet perceives how the cosmos and life reside in the analogical weaving of elements such as air, light, water, earth, and energy. The poet wants his language to emulate such surrounding radiance and it is through sense-perceptions that Guillén's world is formed. Like the provisory nature of this sensational reality, this poet's words are not fixed, unmovable concepts but rather luminous sparks that revel in their capacity to express the universal analogy of the cosmos. As with his friend Salinas, Guillén's poetry conveys the "weight" of the world, but instead of lamenting its fleeting nature, Guillén relies on the "evidence" of the world as his senses capture volumes, forms, colors, and matter in all their elementariness. If his language becomes essentially "thin," it is because it has found light and thus turns upon itself by reflecting on its own luminosity.

Juan Larrea is equally committed to finding the light of clairvoyance that the SHE embodies. Determined to turn away from old ways of thinking, Larrea looks for junctures and crossroads where the terrain of intelligibility becomes unstable but the possibilities for new venues of meaning are greater. Knowledgeable about the most recent discoveries in sciences, Larrea wants to perform with his own self the same type of "crushing" that was taking place at the time with the atom. As for the physicist, Larrea's goal is to reach the last redoubt of being where the light of truth resides. Attuned to the reality of dualisms and the either/or conventional mentality, Larrea shares the uncertainty of quantum mechanics and experiences the impossibility of siding with one term at the expense of the other. It is by means of surrealistic images, of unexpected connections of words and sounds,

that this poet conveys a creative world that resembles the malleable world of modern physics.

Gerardo Diego is set on creating the world of modern art in accordance to Huidobro's guidelines for *creacionismo.* Like his friend Larrea, Diego also deals with dualisms, with the periodic changes in the world, and like waves, his poems convey the whirlwind of the basic energy of life. Aided by the multiple image, he superimposes the subjective over the objective, the east over the west, the past over the present, and tradition over innovation. Like his peers, Diego confronts the fluidity and impermanence of the world he is constructing, and his poems become verbal representations of energy weaving the multiple currents of a reality perceived as an electrified field. With the view of "constructing" the world of modern art, his fable of the letters X and Z provides an artistic rendition of such systems of thought as the inflation theory for the creation of the cosmos.

Rafael Alberti's poetry shows a development, from his early works to his last surrealistic collection, that resembles the changes undergone by a thermodynamic system. His childhood at the Cádiz bay is a world drenched in cosmic energy from the sun, beaches, sea, air, and sky. But when the child is forced to move to the city, this energy turns into pain in the image of the cosmos as a heart pierced by arrows. A new environment and new friendships, with the discovery of sexual desires, bring drastic changes to the secure and closed system, the crystal vase, in which the poet wanted to preserve his poetic world. Time and desire subject that crystal vase to a gyroscope of turnings that finally ends up breaking it. From the ensuing entropy, the new creation of *Sobre los ángeles* emerges. Advancing what would later become chaos theory, *Sobre los ángeles* is the poetic articulation of the poet's own "dissipative structure" and of the emergence of new forms of creativity.

Concha Méndez's poetry stands out for conveying a sense of the world as an undivided flow of energy. Her consciousness is an intrinsic part of the surrounding, with no split or division between the body and the spirit, the inner and the outer, as the energy of life runs through her worldview. This poet's language distances itself from any assertion of authority or anxiety of influence. Instead, it seems set on making obvious the source of its references because the point is to sustain the "conversation" with other poets in this undivided flow of life, rather than to assert uniqueness. In this sense, Méndez embodies the electrical energy in her surroundings, making it one with her own self. Against discourses of anguish or temporality, and their diminishing effect on the flow of energy, Méndez affirms her

voice proclaiming energy and life. As "receptor" of the surrounding energy, this poet's language is her body as it incarnates the porosity and malleability of the world in the physics of relativity.

Like some of his peers, Lorca does not seem to acknowledge a difference between real presences and reflections, and like his friend Salinas, he would agree on the intrinsic presence of the *malentendu*, the unstable nature of meaning. He urges the arts to emulate sciences by pushing to the edge, even if at first it may seem absurd or incredible. Like Diego, Lorca sets out to analyze water in great detail, a difficult task because of the ongoing mobility of the medium, and like Larrea's kaleidoscope and Alberti's gyroscope, he ends up admitting that reflections are the foundation of reality: meaning and identity are forever elusive. Like Alberti, Lorca creates embodiments of natural phenomena and invents fairy tale-like images to construct his views of the cosmos. Lunar reflections on water become young girls who, like Ophelia, end up dead with the light of the new day. In his exploration on the reflection phenomenon, Lorca witnesses the unmaking of all solidity. His reflections correspond to the porous, malleable nature of reality in relativity.

Shadows, *malentendues*, sensations, kaleidoscopes, gyroscopes, light, correspondences, confluences, energy, and reflections are some of the notions emerging from these poets' exploration of reality and art. Their desire to construct the world of new art leads them, paradoxically, to face the melting away of any solid ground. Words blend with other words just as boundaries among elements become blurry. By resorting to physics, this book has provided a foundation and theoretical frame for a new reading of these works; to continue the assertion that this group of poets focuses on reality, without investigating what is the reality we are talking about and how physics had reshaped it altogether, is to reiterate empty words. Analogy, thus, is not simply a way of relating different realms but the means to reach a new kind of meaning and knowledge. Soon, with the Spanish Civil War and World War II, artists and scientists would have a literal view of the fragility of reality and human constructions. Their creative interlude between wars is, however, a fascinating one for the opportunity it afforded them to look at the world with fresh eyes. They created works of art and human knowledge free from illusions of grandeur and eternity, and fully cognizant of vulnerability, mutability, and uncertainty.

Notes

Introduction

1. "To capture the imperceptible" is for Dalrymple Henderson the main feature in every field in the early twentieth century (*Duchamp* xx). Einstein himself said that as a child he believed that "something deeply hidden had to be behind things" (Bernstein 16). Unless otherwise indicated, all translations are my own. Most original texts are rendered in English, except when clarity requires adding the original.
2. Cano Ballesta's book explores the synergy of literature with technology and the industrial revolution; Danius examines the effect of technology on sensorial perception and Crispin considers the exchanges between avant-garde literature and the plastic arts. Vargish and Mook examine the same fields of literature, cubism, and sciences (relativity theory) as in the present book, but in the Anglo-Saxon context.
3. *Ultraísmo*'s close companion was *creacionismo* (creationism), the movement sponsored by Chilean poet Vicente Huidobro, which proposed a program for the creation of art that would be autonomous from reality.
4. The others are Vicente Aleixandre (1898–1984), Dámaso Alonso (1898–1990), Manuel Altolaguirre (1905–1959), Luis Cernuda (1902–1963), and Emilio Prados (1899–1962).
5. Concha Méndez, like other women authors, has been excluded from the canonical generation of 1927, although she was very closely involved in the activities of the group (see Medina and Zecchi 21). Larrea's exclusion has to do more with his own reclusive temperament, his move to France, and his choice to write most of his poetry in French.
6. See the Huxley-Arnold debate on the sciences/humanities split in late nineteenth century, and C. P. Snow's debate of the "two cultures" in his 1959 Rede lecture with the same title (Cartwright 265–280).
7. See also Sánchez Ron and Romero de Pablos, eds, *Einstein en España*.
8. Esteban Terradas (1883–1950) and José María Plans (1878–1934) are two other leading scientists in early twentieth-century Spain.
9. Ramón Ménendez Pidal (1869–1968) was a philologist and a historical and literary researcher.

10. The 1857 Moyano Plan (after Minister of Public Works Claudio Moyano y Samaniego, 1809–1890) placed the university under the ruling of the Ministry of Culture, took away from faculty any say in the matter of textbooks and curriculum, and split the fields of sciences and humanities (see Glick 4, 12).
11. See articles in *El Sol* by R. Izaguirre, Emilio Herrera Linares, and M. Correa; Pedro Carrasco Garrorena and E. de Rafael, S. J. write in *Ibérica* detailed accounts of the solar eclipse (May 29, 1919) and expeditions to Prince Island and to Sobral in Brazil. Eddington's 1919 expedition to Prince Island in Africa was to determine if the total solar eclipse would show the stars near the sun in a position different from the one they would have at night when, with less of the sun's gravitational mass, spacetime between the light of the stars and the observer would not be as compressed. Einstein's prediction, that the beams of the stars would bend as they move through the warped spacetime around the sun, was confirmed, leaving no doubt that Einstein's relativity theories were correct (see Shlain 336).
12. Among scientific publications in Spain, Erwin Freundlich and L. Graetz published books on modern physics in 1920 and 1921. In 1921, *Ibérica* announced Einstein's *Special and General Theories of Relativity* in translation (see Glick 19). Approaching 1923, Max Born's *Einstein's Relativity Theory and its Physical Foundation. Elementary Explanation* appeared in translation.
13. Although Newton's law predicted that Mercury's orbit would be a closed ellipse, because the only force acting on it was the Sun, its orbit forms a rose-like shape; it creates an "extra 43 seconds of arc per century in the perihelion advance as Mercury follows its geodesic route through curved space-time" (Barrow 109–110).

    Michelson's interferometer analyzes the patterns made by two waves intersecting with each other. First, it takes a beam of light and splits it; then, it examines the two resulting beams on a screen to see the patterns they have made. These patterns change depending on the distance each of the beams has traveled. Analyzing the final image provides information on the speed and path of the light (Fox & Keck 169).
14. See Lucini and Rigel.
15. About relativity, Bergson commented "I see [in this work] not only a new physics, but also, in certain respects, a new way of thinking" (cit. in Pais 163).
16. The defining feature of Modernism is to say "the unsayable" (McFarlane 72).
17. It is *sui generis* to Modernism to amalgamate while still maintaining the difference between each of the elements (ibid. 87–88).
18. For a succinct description of electricity and magnetism, see Barrow, 89–94.
19. For my overview, I am indebted to Dalrymple Henderson's analysis of the vibratory energy traversing the works of painters such as

Boccioni and Kupka, and to Ian F. A. Bell's study on energy in Eliot and Pound.

20. Analogy enacts metamorphosis as it associates disparate things. Artists such as Dalí experimented with "processes of slippage, substitution and metamorphosis in the elaboration of images" (Carmona 107). See also Bergero, 26.
21. Space and time are no longer the absolutes Newton postulated them to be in 1687.
22. For Einstein, Maxwell's fieldwork represented the most profound change in the conception of reality since Newton (cit. Barrow 87).
23. "Lines of forces" come from Faraday's experiment with bits of iron fillings, which he put on a sheet of paper so that they could be moved and then placed near a bar magnet. He then shook the paper and the fillings reorganized themselves and formed patterns of lines stretching "from the north to the south pole of the magnet." The magnet thus "produced a 'field' of influence through space" (see Bernstein 33).
24. Related to this, Einstein's trust on his intuition is well-known. Later in his research, he lied on philosophical or epistemological principles, with the experiment coming years after the theory had been published. For Huidobro's *creacionismo*, in turn, hyperconsciousness is a state in which reason and imagination are electrified and the brain is at a very high pressure level (*Obras Completas* I, 664).
25. On the 1927 generation, see Pérez Bazo, M. A. García, and Geist ("El 27 y la vanguardia").
26. Regarding the study of this period, Geist and Monleón use "modernism" with the "broad Anglo connotation which includes aestheticism, *modernismo* (Hispanic Modernism), avant-gardes . . ." (xxxii). Mainer discusses the preeminence given to the 1927 Generation over the avant-garde, and Anderson calls for a more inclusive model or "paradigm change" (*El veintisiete* 279).

CHAPTER 1

1. Garcilaso de la Vega is a Spanish Golden Age poet (1498?–1536).
2. See Guillén's prologue to Salinas's *Poesías completas*. References to poems come from this volume.
3. For the role of the *malentendu* in Salinas's *La voz a ti debida* (The Voice Due to You), see Gala's essay in the bibliography.
4. For the structure of *Presagios*, see Marichal (*Tres voces*) and Stixrude.
5. The text on radiant matter corresponds to a lecture Crookes delivered before the British Association for the Advancement of Science at Sheffield in August 1879.
6. For Katz Crispin, the mirror image in poems 30, 35, and 38 casts doubt upon the poetic enterprise seen as reflection.
7. Jarry is a French writer best known for his absurdist play *Ubu roi* (King Ubu) and his "Pataphysics," a parody of the theory and methods of sciences.

8. See Wilson and Bowen, 125–126.
9. See Cano Ballesta, *Literatura y tecnología* 153–154.
10. Rupert Allen notes the ironic twist in that "the very first word is the very last word" (84). Translations of *Certain Chance* are by David Lee Garrison.
11. Baudelaire, whose *Flowers of Evil* Salinas had translated, declared in "The Painter of Modern Life" (1863) that the lover of universal life "enters the crowd as though it were an immense reservoir of electricity" (*Oeuvres Complètes* 552).
12. Euclid's fifth postulate states that "through a given point on a line can be drawn only one parallel line to a given line that intersects the first."
13. For comments on *Cuartilla* (Paper Sheet), see Stixrude, Silver, and Mayhew.
14. From Cézanne on, painters understood that they should paint as though they were holding, rather than seeing, the object (McLuhan 42). Likewise, Salinas's speaker enjoys confirming by touch the certainty of matter.
15. For Ortega y Gasset: "Our regard, when directing itself to a thing, bumps into its surface and bounces back to our pupil . . . Only with transparent objects, a crystal, for instance, this law does not seem to apply . . . it is necessary for me to direct my regard through it" (152).
16. For views on Salinas and technology, see Stixrude (96), Cano Ballesta (*Literatura y tecnología* 157), Debicki ("La metáfora en algunos poemas tempranos de Salinas" 114–115 and *Spanish Poetry of the Twentieth Century* 36).
17. For commentaries on this poem, see Debicki (*Estudios sobre poesía española contemporánea* 91) and Allen (66–67).
18. See Katz Crispin (20).

CHAPTER 2

1. For this reference, see Sibbald, *Hacia "Cántico"* 103.
2. Rushing, for Guillén, makes culture lose depth (ibid., 213, 214; see also Pozuelo Yvancos 214–215). For an analysis of Guillén's European education, see Sibbald, "Desde París: crónicas y ocio" (esp. 247).
3. As a substantial feature in Guillén's poetry, Amado Alonso notes the tenacity and concentration of the poet's gaze.
4. On his obituary note on Mach, Einstein wrote: "the study of Mach and Hume has been directly and indirectly a great help in my work . . . Mach recognized the weak spots of classical mechanics and was not very far from requiring a general theory of relativity half a century ago" (cit. Mach, *The Analysis* xii–xiii). Mach soon realized the "superfluity of the role played by 'the [Kantian] thing in itself'" (30: note 1).

5. For Mach, "no point of view has absolute, permanent validity"; what counts is "the discovery of *functional relations,* . . ." (ibid., 37, 35; emphasis in the original). The goal of research is to "ascertain the mode of connection" between the elements called sensations (22).
6. Maxwell taught at Cambridge when Karl Pearson studied there; Hermann von Helmholtz's work was also very influenced by his theories.
7. See Polo de Bernabé for the "perceptive apparatus" as consciousness and organizing device (49).
8. Most significant are Goethe's *Physiological Optics* (1867) and his *Theory of Colours* (1810). Helmholtz measured the speed of nerve transmission to determine the time between perception and its object. The study of nerve energies demonstrated that vision is affected by sensations rather than by any link with a referent, which turned vision into something unreliable (Crary 40).
9. For Guillén's connection with sciences, see Pinet and Alfonso Cervantes. Juan Ramón Jiménez referred to Guillén as "our first scientific poet of today" (Piedra & Blasco Pascual 6); Barnstone, as a "passionate physicist" (22); and Azorín spoke of "the physics of a great lyrical poet" (109). For Valverde, "Guillén's phrase is laconic like a scientific formula" (221–222), and for Octavio Paz, "the earth that Guillén praises . . . is the one physics explains in a formula" ("Horas situadas" 251). Dr. Rafael Lozano, Guillén's nephew, discussed his uncle's poetry in connection with Prigogine's notion of time irreversibility.
10. Quoted by Ivar Ivask ("Poesía integral" 37) from a letter Kimon Friar published in *ACCENT* in 1954 (176).
11. Guillén often refers to his poetry as a "whole" (*El argumento* 38, 1969 ed.).See also Casalduero (119, 135–136); Costa (43); Couffon (13); Gómez Yebra (141); and Siles (596).
12. Mach often refers to the picture of a viscous mass to explain the relation existing among things in reality: there is no gap between bodies and sensations, what is without and what is within, between the material and the spiritual worlds (*The Analysis* 17).
13. Sibbald relates Guillén's work to that of modernists such as T. S. Eliot and Franz Büchler to Virginia Woolf. Guillén himself views his generation within the modernist scenario (*El argumento* 11–14).
14. Ezra Pound also spoke about the "radiant world," "of moving energies" (236–237), and Jakobson of "fundamental affinities" as a central notion for the arts and sciences (147).
15. On the horizon, see Matthews (17–18); Debicki ("*Cántico, Clamor,* and *Homenaje*" 55); Mayhew (*The Poetics* 30); and Soufas (32–62). For Mach, "illusions" are sense-impressions of which one is not fully conscious (*The Analysis* 10).
16. Mach rejects Newton's notion of absolute space and time as "metaphysical obscurities," and criticizes Kant for viewing them as knowledge possessed a priori (*Science of Mechanics* 273–274).

17. For this opening stanza, see Lázaro Carreter (161) and Gilman (61, 66).
18. In 1905, Thomas Wilfred introduced the art form of light with his first work in this aesthetics called *Lumia*.
19. For Pearson (68, 108), there is an interval between sense-impression and exertion that is filled with the "resonance" of associated but stored sense-impressions and their correlated conceptions.
20. Morse connects *Vibracionismo* with recent scientific and technological advances in the field of Hertzian waves and wireless telegraphy, listing works then published in Spain on these topics (32).
21. For an examination of the "created" nature of our visual perception, see Wilson and Bowen 138–147.
22. As Heidegger notes, the "being there" is the closest and best known as well as the most distant ontologically (55–56).
23. For the meaning of *aparecer,* see Havard (307), Claudio Guillén (334–339), and Ortega y Gasset (*Obras Completas* III, 236).
24. The mathematical "function" recognizes the "dependence of the characteristics of phenomena on one another" (Mach, *The Analysis* 89–90).
25. On air, see Guillén writings from Paris (Sibbald, *Hacia "Cántico"* 120); *Elargumento* (58–59); *Federico en persona* (129); and essays by Dionisia García (395); Claude Esteban (241); Durán (224); and Dehenin (54–55).
26. The quote comes from the 1977 Barral edition of *Aire nuestro. Cántico* (13).
27. See Miller on this poem.

CHAPTER 3

1. For Díaz de Guereñu, the five sections in *Versión* represent the poet's trajectory in his creative process (134).
2. See Isaacson's biography of Einstein (483).
3. "Each idea . . . has its time of appearance marked by reasons . . . in the universe. And they coincide with other phenomena with which they find themselves in a parallel relationship and which are happening in a different time and place" (*Orbe* 135).
4. For Larrea, in *An Andalusian Dog*, Buñuel "had tried to open up horizons independent from time and space" (cit. Sánchez Vidal 131, 130).
5. On *desorbitar* (to bulge), see Laemmel-Serrano and Gurney (*La poesía* 81).
6. On Einstein's paper on Brownian motion, see Fox and Keck, 40.
7. For Gurney, the first and last poems of *Versión* (dated 1919 and 1932, respectively) mark the beginning and end of a period of evolution from a state of nonbeing toward a state of being and integration within a meaningful universe ("Larrea's Poetic Odyssey" 71).

8. Larrea sees poetry as a malleable medium that resonates with the contortions of bodies in relativity (see *Tierra al ángel cuanto antes* [Earth to the Angel As Soon As Possible] 86). Larrea wrote: "In my hatred for the straight line I kneel down in front of woman, curve of body and spirit" (Cordero de Ciria & Díaz de Guereñu 35).
9. Another example of complementarity is the poem *Estanque* (Pond 72–73) in Larrea's *Versión celeste*. See also Arranz Nicolás (76) and Laemmel-Serrano (50, 54).
10. For Pierre Reverdy, Larrea's friend, "The poet is a mason, he adjusts his stones, the prose writer of concrete, he pours concrete" (cit. Bary, *Poesía y transfiguración* 81).
11. J. Salvat Papasseit and Rafael Barradas collaborated on the publication in Barcelona of the journal *Arc Voltaic*, whose one and only issue appeared in February 1918. Its cover, done by Joan Miró, shows a female nude with curvy lines conveying vibrations.
12. Laemmel-Serrano agrees that there is *un orgasme cosmique* (cosmic orgasm; 159).

CHAPTER 4

1. The quote comes from *Imagen múltiple* (Multiple Image; *Poesía de creación* 45). All references to Diego's poetry come from this 1974 edition.
2. For connections between Diego's poetry and Juan Gris's paintings, see Diego's "Devoción y meditación de Juan Gris."
3. See also Huidobro's 1916 lecture on aesthetics (*Obras Completas* 791–797) and his essay dated February 24, 1924.
4. See also Hinton's writings listed in the bibliography.
5. Around its writing, Diego likely read an essay on cubism and the fourth dimension published in the December 1921 issue of *Los Nuevos*, a magazine found in his personal library. The author, Ildefonso Pérez Valdés, refers to Matisse who said that conceiving the world in three dimensions does not stem from nature but from our own consciousness. For the author space has four dimensions and possibly more, but the insufficiency of our own spirit does not allow us to conceive it.
6. *Manual* is Diego's "classical book within the *creacionista* poetics" (see *Versos escogidos* 37). On *Manual* and cubism, see Ward (141) and March-Martul (35).
7. For periodicity, see Whitehead (47). Wyndham Lewis spoke of the "whirl" or "vortex" as the point of maximum energy (Cassou 535).
8. For the impact of thermodynamics, see Clarke's and Dalrymple Henderson's *From Energy to Information*.
9. For Ema, X, Y, and Z, "by the simple addition of a stroke become one figure formed by two triangles joined at their vertex" (402).

10. Gómez de Tudanca identifies him as Basilio Fernández López, a friend of Diego's (214).
11. The string in the old harp comes from hair or bristle; it refers to king Alfonso X's son, D. Fernando, named "de la Cerda" (of the Bristle) because of the bristles he had growing in a beauty spot on his back (Gómez de Tudanca 211).
12. If this happened, the universe would be in an unstable state with more energy with an antigravitational effect; it would also act like the cosmological constant Einstein introduced in relativity, which would make the universe expand at an ever-increasing rate. There would then be enough time for light to travel from one region to another in the early universe. The idea of inflation could also explain why there is so much matter in the universe. Guth's original theory was called *The Inflationary Universe* and it states that there are forms of matter at very high temperature and density that in effect are antigravitational (see Barrow 217–237).
13. See Culler (135–154) on apostrophe.
14. Diego refers to "the secret plot of the architecture of the poem [the fable] . . . and how it can be conjugated in serious game." His intention was always "to raise myself up to full poetry" (*Prosa literaria. Obras Completas* VIII, 567–568).

CHAPTER 5

1. *Retornos del cometa Halley* is included in the proceedings from the Toulouse symposium (see *Dr. Rafael Alberti*). María Teresa León, the poet's wife, called him "the comet," adding that "Rafael has never lost his light" (222).
2. Alberti adds: "when I wrote my first book . . . I was really a painter" (*La arboleda* 168).
3. When they melt, crystal and snow become images of poetry flowing from the fracturing of innocence; they may also be tears, suggesting that art is part of the fallen paradise, when the purity of snow is broken.
4. For Bergson's view of life as a wave, see Bergson and Carr (15, 88–89); for the phenomenon of periodicity, see Whitehead (47).
5. For interdependence in nature, as Alberti's poems illustrate, see Mach (*The Analysis* 89). Lord Kelvin's vortex rings and Lodge's "electric theory of matter" are relevant to this author (see Dalrymple Henderson, "Vibratory Modernism" 129). To represent energies Alberti, as other artists, expresses the *processes* underlying energy (Asendorf 195). See also Alberti's illustration on page 93.
6. For *Rosa-fría*'s metamorphosis, see Herrero (101, 110).
7. For Goya's *Capriccio*, see Perez Sánchez and Sayre (112–118). Alberti copied some of Goya's works at the Prado during his early years in

Madrid (*La arboleda* 105–107). A version of this section appeared in *Bulletin of Hispanic Studies* (see bibliography); it is reprinted here with permission. References to *Sobre los ángeles* come from the edition by Siles.

8. See chapter VII of *La arboleda* for a passionate recount of Alberti's state of mind during the writing of *Sobre los ángeles* (263–266). Also see Geist ("Hell's Angels") and Morris.
9. Chaos theory is a rather contemporary term although physicists such as Poincaré, in the late nineteenth early twentieth centuries, studied dynamic systems.
10. For chaos theory, Prigogine's and Stengers's books have been consulted.
11. For a definition of *clinamen*, see Hayles (265, 267).
12. See Hayles's introduction for the connection between chaos theory and deconstruction.
13. For Ludwig Boltzmann and entropy, see Clarke ("From Thermodynamics" 24) and Prigogine (*From Being to Becoming* 9).
14. For views on Alberti's angels, see Jiménez-Fajardo (51), Horst (n. 7, 178), Salinas de Marichal (*El mundo poético* 192), and Spang (77). For Alberti's own views, see *La arboleda* (264).
15. In chaos theory, the Butterfly Effect refers to how changes in the initial conditions of a dynamic system, no matter how small, may cause complex and unpredictable results by unchaining a series of increasingly significant events in the long-term behavior of the system.
16. Thermodynamics represents a physics of becoming versus the classical physics of being (Prigogine, *From Being to Becoming* 6, 77).

CHAPTER 6

1. Méndez "lived in depth the literary avant-garde of the 20s and 30s" (Resnick 132). See also Quance ("Hacia una mujer nueva" 103) and Bellver ("From Illusion to Disappearance . . ." 216).
2. For Méndez's intellectual adventures in her youth years in Madrid, see Pérez de Ayala (136–137).
3. For the developmental view of relations between the female self and the vibratory energy of the cosmos, see Chodorow, Gilligan, and Bellver ("Mothers, Daughters" 319, 321).
4. Resnick notes the cosmic dimension of Mendez's poetry in contrast with the domestic themes traditionally found in works by women (139).
5. The "contracted" form of Méndez's tangerine offers a sort of "cubist" version of the orange's perfect roundness.
6. The reference is to Lorca's line *Verde, que te quiero verde* (Green, how I love you green; *Romance sonámbulo* [Sleepwalking Ballad]).

7. See Quance's essay for a discussion of Norah Borges's illustrations of Méndez's and Conde's books.
8. For Miró, poems such as "Jazz Band" and *Automóvil* (Automobile) also reflect the customs and lifestyle of the high bourgeois social class, a life spent between cocktail parties, the opera, tennis clubs, and cars. For Valender, Méndez embodied the new spirit of the time ("Concha Méndez en el Río de la Plata" 12).

CHAPTER 7

1. *Suites* was not published until 1983 (see Belamich's edition 9–23). References to *Suites* and *Canciones* come from *Collected Poems* (ed. Maurer). A version of the section on *Suites* appeared in *Bulletin of Hispanic Studies* (see bibliography under Gala). It is reprinted here with permission.
2. In a letter to Dalí (1926), Lorca expresses his desire to fuse heart and imagination with form and meaning in the work of art (*Epistolario I* 157).
3. Dalí defined it as a "*Spontaneous method of irrational knowledge based on the interpretative-critical association of delirium phenomena*" ("The Conquest of the Irrational" 113, 115; emphasis in the original).
4. See Cavanaugh's "Reading Lorca" on Lorca and Cajal (192).
5. Number 25 in the Lorca Foundation Catalogue corresponds to a copy of Apollinaire's *Alcools: poèmes: 1898–1913* (1920) from the poet's own library; it has numerous marks on the text indicating an attentive reading.
6. Lorca's knowledge of art as evident in his "Ode to Salvador Dalí" and in his lectures most likely came from what he was learning while writing the *Suites* (see Anderson, "Lorca at the Crossroads" 154).
7. Some ten years after Einstein published the general theory of relativity, Eddington investigated the 1919 solar eclipse to prove it (Fox & Keck 79–82).
8. The Catalogue at the Lorca Foundation in Madrid holds a number of issues of *Los muchachos*, a youth magazine to which Lorca's family subscribed between 1914 and 1919. They contain articles on scientific topics, which may have inspired some of the notions in the *suites*, such as in *Tierra* (Earth).
9. The *suites* also echo the musical compositions from the eighteenth and nineteenth centuries dealing with variations on the same motif (Gibson, *A Life* 102; also Walters 103).
10. According to Newton, refraction and reflection are linked (Sepper 141–143).
11. The light from the poet's breast is the light of artistic creation, itself another reflection.

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