Human-machine comparisons appear in the novels of Galdós as early as La Fontana de Oro and occur repeatedly thereafter. This trajectory of machine imagery reaches its peak in the extended metaphors applied to the characters’ destinies in La desheredada, the social roles of Tormento, and the unhappy love affairs of Fortunata y Jacinta. But although naturalism, as it appeared in Galdós’s works, generated the most consistent expression of mechanistic imagery, the pattern of mechanism continued to be a useful tool for the novelist even after he had moved away from a purer naturalism to an interest in a more spiritual approach as in Nazarín and Misericordia.

The great industrial expansion of the second half of the nineteenth century was accompanied by the development of a mechanistic view of the universe and of society in the literary works of the period. Lilian Furst and Peter Skrine point out that naturalistic authors not only had a penchant for likening people to animals but also often compared them to machines:

Man becomes an object to be observed, described and analyzed in total neutrality; his behavior can be understood like the workings of a machine, and it is as little subject to moral judgment as the machine because it is similarly determined (by heredity, milieu and “moment”). Taine in fact called man “une machine de rouages ordonnes” (“a machine with an interacting mechanism of wheels”) in the preface to his Histoire de la litterature anglaise... [and added:] “the evil man is on the same plane as the good: neither is responsible for what he is, both have been conditioned by forces beyond their control.” (20)

Although present in at least one of the novels of Galdós’s “primera época” (La Fontana de Oro), mechanistic imagery becomes more prominent with the advent of naturalism in La desheredada, where it often works in tandem with more numerous human-animal comparisons. La desheredada’s most graphic examples concern the protagonist’s brother, Mariano Rufete. Flawed by the same defective genes as his sister, Mariano degenerates into criminality and is finally executed for attempted regicide. As in the case of Isidora, his progressive descent is repeatedly indicated by animal comparisons, but machine imagery, although less frequent, serves the same artistic purpose. In La desheredada’s initial chapter (entitled “Final de otra novela”), Tomás Rufete, the progenitor of Mariano and Isidora’s defective genes, is soon to expire in the Leganés mental asylum. Each of his attendants on the male ward is “una máquina muscular... con brazos de hierro.” Rufete flees from them “maquinalmente” (968), for their only therapy is the “maquinaria” which inflicts upon the patient streams of ice-cold water, “como agujas de hielo... [y] con áspero chirrido del acero” (970). Further dehumanization is seen also in the case of a fellow patient who paces the floor like an
oscillating pendulum and believes that he has “dos máquinas eléctricas en la cabeza” (975).

Young Mariano is destined to become by the end of the novel as unfortunate as his father, and mechanistic imagery helps to communicate the process and his final status. Not only adverse heredity but also negative environments contribute to Mariano’s gradual dehumanization. The negative environments include industrial work with unpleasant, noisy machinery. Unable to benefit from schooling, Mariano goes to work at the age of thirteen. As Isidora is shocked to discover, her brother, working a treadmill in a rope factory, must spend the day in utter darkness. Eamonn Rodgers finds Galdós’s description of the rope factory much like “the Naturalistic ‘set-piece’ descriptions of industrial conditions in the late nineteenth century” (75). Thus it is understandable that Mariano comes to hate his machine: on the very day that he kills another boy, he feels that his hands and part of the machine are all one object (1009). This dehumanizing process reaches such a state in volume 2 that, while working with another machine in a printing shop, “[muchas veces Mariano] se suponía también compuesto de piezas de hierro que marchaban a su objeto con la precisión fatal de la Mecánica” (1081).

The “objeto” toward which Mariano is relentlessly moving turns out to be his execution for attempting to assassinate the king. The last time Mariano is seen in the novel is on the day he fires at the monarch. Upon hearing the discharge of Mariano’s pistol, the enraged crowd mechanically attempts to destroy him. Although the details are different, Mariano, like his father before him, ends up in machine-like hands. The reader’s final vision of Mariano is that of one caught in the gears of an avenging machine, “cuyo engranaje de brazos y manos le oprimía, como si quisiera pulverizarle” (1148).

To a lesser extent mechanistic imagery is also appropriate for Mariano’s sister. When Isidora goes to her climactic interview with the Marquesa de Aransis near the end of volume 1, the narrator reports: “Andaba como una máquina. Su corazón no era corazón, sino un martinet que daba golpes terribles” (1053). Then, after being rebuffed by the marquesa, Isidora allows herself to be carried along by the crowd celebrating that night the abdication of King Amadeo I: “El contacto de la muchedumbre, aquel fluido magnético conductor de misteriosos apetitos que se comunicaba de cuerpo a cuerpo por el roce de hombros y brazos, entró en ella y la sacudió” (1059). Late in volume 2 when Isidora is arrested, she reacts to the shock: “Véa las cosas, las tocaba, preguntaba, y aun respondía como cediendo a una fuerza mecánica” (1127). Finally, in the novel’s concluding paragraphs, when Isidora decides to become a prostitute, she has lost all notion of free will. “Es mi destino,” she says. Although mechanistic imagery would be appropriate for her at this point, the narrator chooses to confirm his more total mechanistic view by shifting instead to Isidora’s godfather and recording the latter’s reaction to her terrible decision. Having been described already as dependent on increasing amounts of alcohol, José Relimpio now “anduvo como desconcertada máquina . . . [y] encontró una botella” (1161).

In Tormento Galdós continues to have recourse to mechanistic imagery but with a different emphasis. As the rough and ready indiano protagonist, Agustín Caballero, makes a concerted effort to adapt to life in Madrid, it is often necessary for him to “sostener el austero papel de persona intachablemente legal, [ser] rueda perfecta, limpia y corriente en el triple mecanismo del Estado, la
Religion y la Familia” (1521). By the end of the novel, however, Caballero realizes it is foolish for him to think that he can be “una rueda perfecta en estos mecanismos regulares de Europa.” He was better off in America, he says, with his “salvaje albedrío” (1562). He decides to live accordingly even in Spain and does so at the climax of the novel by making Amparo Sánchez Emperador his mistress rather than his wife.

Mechanistic imagery is also appropriate in the case of Amparo. An orphan girl who has been involved with a priest, she is continually torn between her desire to marry Caballero and her fear that her past will become known. On one occasion Amparo is so troubled by her problem that she cries out in her sleep, “cual si la infeliz estuviese en una máquina de tormento y le quebrantaran los huesos y le atenazaran las carnes” (1491). Late in the novel Amparo finds herself “cada vez más privada de voluntad, de discernimiento y de resolución,” so that she answers “maquinalmente” and goes “por la calle como un autómata” (1553). Deciding to confess her past to her fiancé, she arrives at Caballero’s house only to find him gone:

When Amparo learns that her fiancé has gone to talk with a person who holds two of her love letters, the narrator says (reminiscent of Isidora in La desheredada): “Su corazón no era corazón: era maquinilla loca que corría disparada y se iba a romper de un momento a otro” (1554). Amparo now sees no way out but suicide, and she sends her fiancé’s servant, Felipe Centeno, to a pharmacy with a request for poison. Before he leaves, Felipe starts a large mechanical music box which has cardboard birds attached to its top: “Voy a dar cuerda a la caja de música de los pajarrucos. Así se entretendra usted mientras este sola” (1555). Although the music box had earlier been introduced as one of the presents Agustín was buying for his future wife, it now has a negative effect on Amparo and, in naturalistic fashion, underscores her own lack of free will. As Amparo thinks of suicide, “Los pájaros de cartón, animados por diabólico mecanismo, ponían a esto comentarios estrepitosos con su cantar metálico y aleteaban sobre las ramas de trapo. Era como vibración de aceradas agujas o alfileres, música chillona que rasgaba el cerebro. Amparo creía tener todos los pájaros dentro de su cabeza” (1555). Fortunately Centeno and the pharmacist perceive the danger, and Amparo ends up drinking only a harmless substitute instead of the poison. And, because Caballero has decided to recover his “salvaje albedrío” and not become a “rueda,” he can offer her (and she can accept) domestic happiness outside the usual “mecanismo social” (1563).

In Fortunata y Jacinta, too, mechanistic imagery is an important aspect of the author’s technique, and the question of determinism versus free will, already seen in La desheredada and Tormento, is again addressed. Maxi Rubín, early in book 2,
asks: “¿Soy yo alguna máquina? . . . ¿No tengo mi libre albedrío?” (192). The answer to his question is developed through the pages of three volumes. Other characters and the narrator, all sometimes expressing a mechanistic view of life, play important roles in the artistic elaboration of the answer. Maxi’s aunt, for example, foresees that he will have problems “dentro de la máquina del matrimonio” (220). The bride’s marriage counsellor, Father Nicolás Rubín, appears completely incompetent, and the narrator charges him with “desgobernando, en fin, la máquina admirable de las pasiones” (216). Thus it is no surprise that Maxi soon identifies with a functioning/non-functioning windmill (see Chamberlin, “Poor Maxi’s Windmill”). When the windmill functions, Maxi feels good; when it is not working he becomes panicky and depressed. Galdós is clearly drawing upon the age-old association of a pump with masculine sexuality (Farmer and Hensley 320; Reuben 8), preparing the reader for Maxi’s eventual inability to perform the physical act of love. Paralleling an earlier inability of the windmill to function when Fortunata wants it to, Maxi turns out to be impotent on his wedding night: “El pobre chico no se encontraba en aptitud de expresarle su desmedido amor de otro modo que por manifestaciones relacionadas exclusivamente con el pensamiento y con el corazón. Palabras ardientes sin eco en ninguna concavidad de la máquina humana, impulsos de cariño propiamente ideales, y de aquí no salía, es decir, no podía salir” (274).

Maxi’s marital problems eventually cause him to become mentally ill and, at the end of the novel, to be confined to the Leganés asylum. It is understandable that in the penultimate chapter he has no reason to disagree when his sometime alter ego, José Ido del Sagrario, says: “No somos dueños de nuestra vida. Estamos engranados en una maquinaria, y andamos conforme nos lleva la rueda de al lado. El hombre que hace el disparate de casarse se engrana, se engrana . . . y ya no es dueño de su movimiento” (491). Later, after thinking about his own situation, Maxi voices complete agreement and arrives at an answer to the question he posed nearly three volumes earlier (“¿Soy yo alguna máquina? . . . ¿no tengo mi libre albedrío?”). Seeing no possibility of free will, he says: “Aquel hombre lo decía: ‘Estamos engranados en la máquina, y la rueda próxima es la que nos hace mover. Sus dientes empujan mis dientes y ando’” (492).

Mechanistic imagery (as Goldman has noted) is also used in the characterization of Fortunata. Just as her husband’s sexual problem is communicated by means of the intermittently functioning windmill, so Fortunata’s resulting frustrations are communicated through her interest in water delivery systems: not only parts of the very same windmill but plumbing in general. She finds herself—without understanding why—standing and contemplating plumbing supplies in a store window. Subsequently she dreams about this experience “ante el escaparate de la tienda de tubos . . . ¡Cuánto tubo! Llaves de bronce, grifos y multitud de cosas para llevar y traer el agua” (409). While this type of imagery delineates one specific aspect of Fortunata’s emotional life, imagery of a more cosmic nature soon helps her to evaluate her feelings in regard to the overall situation and to explain why she can again accept Juanito Santa Cruz as lover: “Tenía la antigua y siempre nueva pasión tanto empuje y lozanía . . . [que] se consideraba Fortunata . . . como ciego mecanismo que recibe impulso de sobrenatural mano . . . por disposición de las misteriosas energías que ordenan las cosas más grandes del universo, la salida del sol y la caída de los cuerpos graves” (277).
When, at the climax of book 2, Fortunata's second attempt at living with Maxi fails, "Las ansias amorosas se cruzaban en su espíritu con temores vagos, y al fin venía a considerarse la persona más desgraciada del mundo, no por culpa suya, sino por disposición superior, por aquella mecánica espiritual que la empujaba de un modo irresistible" (289). Fortunata's life is also complicated by the inconsistent amorous interest of Juanita Santa Cruz, the only man she is destined to love. He comes to her periodically "[a] dejarse mover de la fuerza centrífuga" but then, after a while, always returns to his wife in a "movimiento centrípeto" (312).

Hard knocks can temporarily dehumanize Fortunata, making her like either a machine or an animal. After the fight with Jacinta, for example, she returns home "como una máquina" and throws herself on the sofa, "dando un rugido ... [revolcándose] como las fieras heridas" (409). At these times she may also perceive things in mechanistic terms. In an argument with Juanito (later recalled from her point of view), his angry words "se repetían sin cesar, como la pieza de una caja de música, cuyo cilindro, sonada la última nota, da la primera" (463). After Juanito abandons her, Fortunata almost knocks on his door for a confrontation, propelled by "impulsos ... irresistibles y mecánicos" (324). Realizing the futility of this situation, however, she goes elsewhere and sits for a long time, "viendo pasar tranvías y coches en derredor suyo, como si estuviese en el eje de un tiovivo" (326). But Fortunata always rebounds from these situations, and, as Goldman says, by the end of the novel, in contrast to Maxi, she has become free of deterministic forces. There are many reasons for her liberation, one of which, I believe, is that along the way she has gained a more sophisticated understanding of society and how to cope with it: "¿Qué cosas hay, pero qué cosas! ... Un mundo que se ve y otro que está debajo, escondido ... Y lo de dentro gobierna lo de fuera ... pues ... claro ... , no anda la muestra del reloj, sino la máquina que no se ve" (366).

Other uses of mechanical metaphors in *Fortunata y Jacinta* include clock imagery for Doña Lupe, "cuya existencia era muy semejante a la de un reloj con alma," whose morning organization "era esto como si se diera cuerda" (356-57), and whose eye movements are "casi maquinales" (357). Such tropes have led one critic to refer to "la gran maquinaria que es la novela *Fortunata y Jacinta* ... un inmenso reloj en el que cada ruedecilla o personaje ocupa un lugar y ejerce una función" (Ortiz Armengol 5). Male characters (Feijoo, Maxi, and Moreno Isla) sometimes reveal a mechanistic view of their own bodies (339, 348, 388, 445, 447), while Jacinta has a "molinillo en el corazón," grinding away, processing intuitions and bits of information regarding her husband's infidelities (313). Most interesting is the attitude of the narrator towards his craft. In book 2, he asks the reader's indulgence concerning details and circumstances which might seem childish, but he assures the reader that they will turn out to be important and have their "engranaje efectivo en la máquina de los acontecimientos" (249). An illustration of this technique is subsequently provided in the details preceding Fortunata's reacceptance into the Rubín household (book 3). Feijoo astutely maneuvers behind the scenes to influence one at a time each member of the family to readmit Fortunata. Echoing the narrator's statement in *Tormento*, the narrator here says that these machinations and their result are similar to those of historical events in national life, "¿Que llegan a ser efectivos sin que se sepa cómo,
As late as 1891, in Tristana, machine imagery continues to be a notable element in Galdós's novelistic technique, even though it is less frequent. The narrator reveals a mechanistic view of society as he distances himself from some of the ideas of a character: “Se nos ponen los pelos en punta de pensar cómo andaría la máquina social si... [prevaleciesen] los disparates de don Lope” (1547). In addition, on two occasions there is passing mention of dehumanization in persons who are dominated by much stronger personalities. The first instance shows the influence of Horacio Díaz's “feroz abuelo” on two characters who work in the old man's pharmacy, Horacio and a long-time employee: “Adaptábame [Horacio] poco a poco a tan terrible molde... remendando involuntariamente la actitud sufrida y los gestos mecánicos del amarillo y calvo dependiente, que... [ya carecía completamente] de personalidad” (1557). More important, Tristana, handicapped by adverse heredity, is forced to live with the aging, repugnant Don Lope, who exploits her sexually. The narrator gives one instance as typical. At night Don Lope summons Tristana to his bedroom by means of a bell, “y [ella] acudió cediendo a una costumbre puramente mecánica” (1567). Although this action concerns only one aspect of Tristana's problem-riddled relationship with Don Lope, it might be considered a metaphor for all of the troubled aspects of the relationship, because Tristana never becomes strong enough to liberate herself from the mechanism in motion.

By the second half of the 1890s Galdós had moved away from the tenets of naturalism and was writing in accord with an entirely new aesthetic. Now a much stronger protagonist appears, one who is not flawed by negative heredity or weakened by adverse environments. Consequently, the protagonist does not degenerate or become dehumanized during the course of the novel. On the contrary, in Nazarín and Misericordia, the main character ascends to a state of Christ-like spirituality near the end of the novel. Because Galdós has lost interest in the question of determinism versus free will, mechanistic imagery is no longer an appropriate marker along the trajectory of the protagonist. This new aesthetic is reflected in Nazarín during the protagonist’s conversation with the alcalde. Father Nazarín says: “En la Humanidad... [se nota] una feliz reversión hacia lo espiritual.... No podía ser de otra manera. La ciencia no resuelve ninguna cuestión de trascendencia de los problemas de nuestro origen y destino.... Después de los progresos de la mecánica, la Humanidad es más desgraciada; el número de pobres y hambrientos, mayor; los desequilibrios del bienestar, más crueles” (1725). Nevertheless, the narrator of Nazarín (like the earlier narrator of Fortunata y Jacinta) has recourse to lo mecánico as he provides an insight into his creative process: “Días tuve de no pensar más que en Nazarín, y de deshacerlo y volverlo a formar en mi mente, pieza por pieza, como niño que desarma un juguete mecánico por entretenérse armandolo de nuevo” (1691).

Subsequently, the novel has only one significant use of mechanistic imagery, which concerns one of the protagonist’s disciples. When Nazarín, Beatriz, and...
Andara are caring for the victims of a smallpox epidemic in a town west of Madrid, conditions are so bad that Andara can carry out her charitable work (and grow spiritually) only by disassociating herself from her own humanity. Reminiscent of Doña Guillermina in *Fortunata y Jacinta*, Andara “se movía como una máquina, y desempeñaba todos aquellos horribles menesteres casi de un modo inconsciente. Sus manos y pies se movían de por sí… Procedía bajo la sugestión del beato Nazarín como muñeco dotado de fácil movimiento. Sus sentidos estaban atrofiados” (1734).

In *Misericordia* there is another change in Galdós’s use of mechanical imagery. In earlier novels a mechanical action almost invariably had a negative connotation, but in *Misericordia* positive associations sometimes occur with mechanical tropes. When Frasquito Ponte receives news of an unexpected inheritance, the narrator describes his jubilation: “se lanzó a la calle, ávido de aire, de luz, de vergente, de recrearse en cosas y personas. Del tirón, andando maquinalmente, se fue hasta el paseo de Atocha, sin darse cuenta de ello” (1970). When Ponte decides to celebrate by treating himself to a meal in a tavern, the narrator combines the two naturalistic dehumanizing metaphors used so effectively during the 1880s, animal and machine imagery, into a single description of a minor character—but now for purely comic effect. Ponte observes (and later talks with) a man who has a pronounced “rostro gimioso.” The monkey-faced man is eating “pausada y metódicamente una radon de caracoles.” The narrator explains: “Era verdaderamente una máquina para comerlos porque para cada pieza empleaba de un modo invariable los mismos movimientos de la boca, de las manos y hasta de los ojos… siempre a compás, con igualdad de gestos y mohínes… como figurilla mecánica de caja de música… [que se mueve] a cada vuelta de manubrio” (1972). The music box of *Tormento*, which suggested in that novel the culmination of despair, now is used exclusively for entertainment, tracing Galdós’s evolution away from the tenets of naturalism.

The novels considered in this study confirm that, like Zola (Duncan 10-12) and other European authors of the period, Galdós used mechanistic imagery to suggest a deterministic view of society but then went on to temper that view with a more spiritual approach to his characters. Mechanistic imagery (in consonance with Furst and Skrine’s observation concerning naturalism) is most prevalent during the naturalistic period, reaching its peak of versatility in *Fortunata y Jacinta*. Echoes of this technique may still be observed in *Tristana*, when mechanism is used once in the characterization of the protagonist. By the late 1890s, however, mechanistic imagery no longer occurs in conjunction with the protagonist: in *Nazarín* it describes one character’s specific activity; in *Misericordia* it describes the elated emotional state in a secondary character and humorously depicts an incidental character. Mechanistic imagery, therefore, appears to have become for Galdós a useful tool that outlived a purely deterministic view of society and continued to resurface in his later works.8
Mechanistic imagery in *La Fontana de Oro* was first reported by Wright 19-20 and its continuations noted by Goldman 69.

For a discussion of human-animal comparisons during Galdós's naturalistic period, see Chamberlin, "Vamos a ver las fieras" and "Social Darwinism." 5

The attendants on the female wards, in contrast, are Sisters of Charity.

The music box is described as "una jaula de pájaros, todo figurado, con música, y cuando se le da al botón que está por abajo, tiriquiptlín... empiezan a sonar las tocatas dentro, y los pájaros mueven las alas y abren el pico" (1486). When other characters tour Agustín's new house, they see not only the music box but also a very modern cooking range: "un grandísimo armario de hierro, de pura industria inglesa, con diversas chapas, puertas y compartimientos. Era una máquina portentosa. 'No le faltaba más que las ruedas para parecer locomotora', decía [un pariente]" (1533).

For a discussion of Jacinta’s observation after a visit to a textile factory, "Vale más ser mujer mala que máquina buena," and how this comment might apply to Fortunata, see Goldman.

Tristana’s manic-depressive personality is inherited from her mother, who became ill following the death of her husband. Tristana herself is characterized as manic-depressive (and her real-life prototype, Concha-Ruth Morell, is so considered today). See Madariaga de la Campa (76-88) and Chamberlin, "Realism and Artistry."

Animal imagery is also no longer a sign of degeneration in these novels (Chamberlin, "Animal Imagery").

The dramatic works in the following period also show significant mechanistic imagery. See for example *Electra*: I, 9; III, 10; IV, 10.