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Possible Worlds

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1 Definition

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The concept of possible worlds (henceforth PW), loosely inspired by Leibniz' philosophy, was developed in the second half of the 20th century by philosophers of the analytic school (Kripke, Lewis, Hintikka [1989], Plantinga [1976], Rescher) as a means to solve problems in formal semantics. These problems are the truth conditions of counterfactual statements ("If a couple hundred more Florida voters had voted for Gore in 2000, the Iraq war would not have happened") and of sentences modified by modal operators expressing necessity and possibility (hence the close relationship between possible worlds theory and modal logic). Other modal systems have been built around operators expressing what is known as "propositional attitudes" such as beliefs, obligation, and desires. Starting in the mid-70s, PW theory was adapted to the fictional worlds of narrative by the philosopher David Lewis, as well as by a number of literary theorists, including Eco, Pavel, Doležel, and Ryan. Through the questions they ask, PW-inspired approaches have also influenced critics such as McHale, Margolin, Palmer, and Dannenberg. A thorough exposition of the philosophical applications of the notion of possible worlds, as well as a critique of the use of the concept by literary theorists, can be found in Ronen 1994

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2 Explication

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The foundation of PW theory is the idea that reality—conceived as the sum of the imaginable rather than as the sum of what exists physically—is a universe composed of a plurality of distinct worlds. This universe is hierarchically structured by the opposition of one element, which functions as the center of the system, to all the other members of the set (Kripke 1963). The central element is known as the “actual” or “real” world (henceforth AW) while the other members of the system are alternative, or non-actual possible worlds (APWs). For a world to be possible, it must be linked to the actual world by a relation of accessibility. The boundaries of the possible depend on the particular interpretation given to this notion of accessibility. The most common interpretation associates possibility with logical laws: every world that respects the principles of non-contradiction and of the excluded middle is a possible world. On the basis of this model, we can define a proposition as necessary if it is true in all worlds linked to the actual world (including this actual world itself); as possible if it is true in only some of these worlds; as impossible (e.g., contradictory) if it is false in all of them; and as true, without being necessary, if it is verified in the actual world of the system but not in some other possible world.

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The major question raised by this model concerns the nature of the properties that make one of the worlds of the system the actual world. Two main theories of actuality have been proposed. According to the first, which could be called the absolutist view, the actual world differs in ontological status from merely possible ones in that this world alone presents an autonomous existence (Rescher [1973] 1979). All other worlds are the product of a mental activity, such as dreaming, imagining, foretelling, promising, or storytelling. The other interpretation, proposed by Lewis (1973: 84–91), regards actuality as an indexical notion with variable reference, similar in this respect to linguistic expressions such as “I,” “you,” “here,” “now.” According to Lewis, “the actual world” means “the world where I am situated,” and all PWs are actualized from the point of view of their inhabitants. This view, known as “modal realism,” makes a distinction between “real” and “actual”: for Lewis, all possible worlds are real in the sense that they exist independently of whether or not a member of AW imagines them, but only one world can be actual from a given point of view.

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3 History of the Concept and its Study

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Applications of PW theory to narrative fall into two main categories: the theory of fiction, and the semantic description of storyworlds (or rather, narrative universes), whether fictional or not. The discussion that follows focuses on literary, i.e. language-based narrative and fiction, but the observations and concepts developed by the various advocates of PW theory can now be seen as equally valid for narratives realized in other media such as drama, film, comics, or video games.

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3.1 Pioneering Scholars [8]

3.1.1 David Lewis [9]

In a 1978 article titled “Truth in Fiction,” Lewis applied PW theory to the problem of defining under what conditions a statement concerning a fictional world which is not necessarily included in the text, such as “Emma Bovary despised her husband,” can be regarded as true. He defines fiction as stories “told as true” of a world other than the one we regard as actual. Fictional stories differ from counterfactual statements in that they are told from the point of view of an APW which readers regard as the actual world in make-believe, while counterfactuals describe an APW—say, the world in which Al Gore is elected US president in 2000—from the point of view of AW, acknowledging their alternative status through markers of irreality such as *if... then* operators, or the conditional mode. Despite this difference, however, Lewis adapts his account of the truth conditions of counterfactuals to the case of fiction. According to him, a statement in the form of “if p then q” is true for an evaluator if the APW where both p and q are true is closer, on balance, to AW than the world where p is true and q is false. For instance, people will agree with the statement “If a couple hundred more Florida voters had voted for Gore in 2000, the Iraq war would not have happened” if they think that George Bush was personally responsible for the Iraq war; on the other hand, if they believe that Al Gore would also have declared war on Iraq, they will think that the world where (a) “a couple hundred more Florida voters vote for Gore in 2000” (thereby electing Gore US President) and (b) “the Iraq war happens” is closer to AW, and they will regard the counterfactual as false. According to Lewis, this criterion can also be applied to statements about fictional worlds (Fictional vs. Factual Narration). For instance, “Emma Bovary admired her husband” is false because a world where a woman behaves like Emma Bovary and admires her husband is far more remote from AW in its human psychology than the world where Emma despises her husband. [10]

This analysis has important consequences for literary theory for the following reasons: (1) it regards statements about fiction as capable of truth and falsity, against the formerly prevalent views among philosophers that they are either false (for lack of referent) or indeterminate; (2) it assumes that the real world serves as a model for the mental construction of fictional storyworlds; but (3) it does not limit the fictional text to an imitation of reality, maintaining, on the contrary, that texts are free to construct fictional worlds that differ from AW. Readers imagine fictional worlds as the closest possible to AW, and they only make changes that are mandated by the text. For instance, if a fiction mentions a winged horse, readers will imagine a creature that looks like real world horses in every respect except for the fact that this creature has wings. Ryan (1991) calls this interpretive rule “the principle of minimal departure,” and Walton (1990) calls it “the reality principle.” [11]

3.1.2 Thomas Pavel [12]

Pavel was the first literary critic to understand the potential of the concept of PW for narrative theory. In his 1975 article “Possible Worlds in Literary Semantics” (further developed in his 1986 book *Fictional Worlds*), he sees in the concept of PW a way to put an end to the structuralist moratorium on questions of reference. In creating what is objectively an APW, the literary text establishes for the reader a new actual world which imposes its own laws on the surrounding system, thereby defining its own horizon of possibilities. In order to become immersed in this world, the reader must adopt a new ontological perspective, thereby entailing a new model of what exists and what does not. “In this precise sense,” writes Pavel, “one can say that literary worlds are autonomous.” Any comparison between art and reality is legitimate but “logically secondary to the unique ontological perspective posited by the work” (1975: 175). By placing fictional worlds at the center of its modal system, the literary semantics envisioned by Pavel avoids the extreme isolationism imposed by the structuralist and deconstructionist doctrine of textual immanence without falling into the pitfall of a naïve realism which would reduce fictional worlds to representations of the actual world. While naïve realism (a stance that is more a strawman than a view which is actually defended) would divide the fictional text into propositions that are true or false with respect to AW and use this truth value as a criterion of validity, a literary semantics based on the concept of PW regards all propositions originating in a fictional world as constitutive of this world and therefore as automatically true in it. (Under this view, an exception must be made for the declarations of unreliable narrators.) But Pavel also warns against a “segregationist” view that erects an impermeable boundary between fictional worlds and the actual world, for such a boundary would prevent fictions from providing insights about our world, thereby depriving literature of any ethical, existential, political, or didactic value. Moreover, since, according to PW theory, the truth value of a proposition can be evaluated with respect to different worlds, nothing prevents readers from assessing the truth within AW of *ersatz* propositions stripped of their mark of origin. In a work like *Doktor Faustus* by Thomas Mann, for instance, we are entitled to regard the musicological discussions as (potentially) reliable information about aspects of AW with which we are unfamiliar. It is the possibility of varying the reference world of propositions that enables fictions to make relevant statements about the actual world. Yet while fiction can provide valuable insights about reality, literary characters such as Don Quixote and Emma Bovary exemplify the danger of uncritically inverting minimal departure and constructing reality as the closest possible to a fictional world.

3.1.3 Lubomír Doležel

In a series of articles starting in 1976 (1976a, 1976b) and culminating in the 1998 book *Heterocosmica: Fiction and Possible Worlds*, Doležel proposes a conception of fictional semantics quite different from the view that emerges from Lewis’ analysis of truth in fiction and from its implication, the principle of minimal departure. While minimal departure assumes that fictional entities possess the same ontological fullness as real objects, Doležel invokes PW theory in support of a semantic model that stresses the radical incompleteness

of fictional worlds: because it is impossible for the human mind to imagine an object (much less a world) in all of its properties, every fictional world presents areas of radical indeterminacy. It is a waste of time to ask how many children Lady Macbeth had, because the number of her children is never specified. As can be seen from this example, such a lack of information constitutes an ontological gap inherent to fictional worlds. (Minimal departure, by contrast, would regard Lady Macbeth as compatible with many different worlds: one in which she had a single child, another in which she had two children, and so on, up to the number of children a woman can be reasonably expected to bear. It would also regard the number of her children as unknowable information.) Doležel's conception of literary meaning is based on an opposition between what he calls an "extensional" and an "intensional" (not to be confused with intentional) narrative world. The extensional narrative world consists in a set of "compossible narrative agents" (i.e., agents created by the same text) together with the actions and properties ascribed to these agents. The intensional narrative world is the sum of all the meanings expressed by the text; for instance, "Hamlet" and "the Prince of Denmark" refer to the same individual in the extensional narrative world, but they carry different intensional meanings. (One recognizes here Frege's opposition between sense and reference.) The reader passes from the intensional to the extensional narrative world by assuming the existence of an "intensional function" that links referring expressions to fictional existents. The relation between the intensional and the extensional narrative world determines what Doležel calls the "texture" of the text. Against theories that advocate the filling in of the gaps in the text, Doležel stresses the aesthetic importance of the strategies of showing and hiding that regulate the disclosure of narrative information. It is not insignificant, for instance, that Goethe's *Elective Affinities* "suppresses the material and organic levels and constructs explicitly only the mental and spiritual levels" (1998: 184). While Doležel's model accounts much better than theories based on minimal departure for the aesthetic significance of the formal features of the text, it leaves unresolved the location of the incompleteness of fictional objects: is it a feature of the extensional or of the intensional narrative world? Despite the lack of information concerning the realm of the physical, readers do not imagine Goethe's characters as disembodied minds floating ghostlike in the fictional world. While Doležel's stated purpose is to prevent a reduction of fictional worlds to "the uniform structure of the complete, Carnapian world" (1998: 171), one could argue that it is by assuming the completeness of the extensional world that the gaps in its representation (i.e., in the intensional world) become noticeable and acquire significance.

Another aspect of narrative semantics that Doležel (1976b) explores with the help of PW theory is the typology of plot. He proposes a classificatory system based on various possible interpretations of modal logic: the *alethic* system, based on the operators possible, impossible, and necessary; the *deontic* system (permitted, prohibited, and obligatory); the *axiological* system (good, bad, indifferent); and the *epistemic* system (known, unknown, believed). Doležel links each of these systems to a different type of plot. The alethic system is shown to be responsible for the division of the population of fictional worlds into groups of different abilities (gods versus humans, the seeing among the blind, etc.), as well as for the

categorization of fictional worlds as a whole as realist, fantastic, or nonsensical. Constraints of the deontic type generate plots of obligation, crime, and punishment; the axiological system underlies stories of quest and moral dilemma; and the manipulation of the categories of the epistemic system produces mystery stories, narratives of learning (the *Bildungsroman*), comedies of errors, as well as the all-important function of deceit.

3.1.4 Umberto Eco

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Developing a very short but dense and highly influential article by Vaina (1977), Eco regards the semantic domain of narrative not as a possible world, but as a universe made up of a constellation of possible worlds. A literary text, he writes, is not a single possible world, but “*a machine for producing possible worlds (of the fabula, of the characters within the fabula, and of the reader outside the fabula)*” (1984: 246; italics original). These three types of worlds can be defined as follows:

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1. The possible worlds imagined and asserted by the author. These worlds correspond to all the states of the *fabula*.

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2. The possible subworlds that are imagined, believed, wished, and so on by the characters of the *fabula*.

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3. The possible worlds that, at every disjunction of probability, the Model Reader imagines, believes, wishes, and so on, and that further states of the *fabula* must either approve or disapprove.

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The first type of worlds describes the *fabula* as a succession of distinct states mediated by events. These states correspond to objectively occurring physical states, and they can be regarded as the actual world of the narrative system. The second type of worlds corresponds to the mental activity of the characters, a mental activity through which they react to the changes of state that occur in the physical world or to their idea of what happens in the mind of other characters. The third type of worlds describes the dynamic unfolding of the story in the reader’s mind. When type-3 worlds are disapproved by the *fabula*, they disappear from the narrative universe but remain as “ghost chapters” in a wider semantic domain that encompasses not only the events narrated as fact, but all the virtual stories brought to mind by the text. By monitoring the construction of possible worlds by the reader, the narrative text creates such effects as suspense, curiosity, and surprise, or it may trick the reader into false assumptions. A text, claims Eco, tells at least three stories: (a) the story of what happens to the *dramatis personae*; (b) the story of what happens to the naïve reader; and (c) the story of what happens to itself as text (this third story being potentially the same as what happens to the critical reader). The possible differentiation of (b) and (c) is demonstrated by trick texts that leads the reader to false assumptions.

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3.2 Areas of Application

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In a second wave of development, the concept of PW gradually emancipates itself from its origins in logic and analytic philosophy and comes to designate more broadly the imaginary, the virtual, the mental, and the potential. Below is an overview of these developments organized by topic. [24]

3.2.1 Narrative Semantics

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Inspired by Eco's view of the narrative text as "a machine for producing possible worlds" as well as by models used in artificial intelligence, Ryan (1985, 1991) describes narrative universes—whether fictional or not—as modal systems in which the external (i.e., physical) facts asserted by the narrator play the role of "textual actual world." Surrounding this ontological center are the little solar systems formed by the private universes of the characters. Each of these subsystems is centered around an epistemic world, or K (for knowledge) world, which contains the character's representation of the entire system—that is, of both the actual world and the private worlds of the other characters (which themselves contain images of the private worlds of the character under consideration in a mirroring process that would lead to endless recursion if it weren't for the limitations of the human mind). From the reader's point of view, the K-world of characters contains a potentially inaccurate image of the actual world of the narrative universe, but from the character's point of view this image is the actual world itself. The private universes of characters also include model worlds, such as desires (W-world) and obligations (O-world), which capture how the character would like the actual world to be: active goals and plans, which capture projected courses of actions leading to the fulfillment of the model worlds; and fantasy worlds such as dreams, hallucinations, and stories within stories which embed, recursively, new modal systems. [26]

A narrative, however, cannot be reduced to a static snapshot of a certain state of a modal system. During the course of the story, the distance between the various worlds of the system undergoes constant fluctuations. Whenever a proposition in a model world is not satisfied in the actual world, the narrative universe falls into a state of conflict. The motor that operates the narrative machine is the attempt by characters to eliminate conflict by reducing the distance between their model worlds and the actual world. Conflict can also exist between the model worlds of different characters. For instance, the hero and the villain are antagonists because they have incompatible W-worlds and work toward incompatible states. Or a character may experience conflict between her W-world and her O-world and have to choose which one to try to satisfy. PW theory thus models narrative dynamics as the movement of individual worlds within the global narrative universe. This movement does not end when all conflicts are resolved, for conflict is a permanent state of any universe, but when all the remaining conflicts cease to be productive because their experiencer is no [27]

longer willing or able to take steps toward their resolution. Trying to establish what holds as fact in the actual domain of the narrative universe, distinguishing the factual and physical from the possible and virtual located in the mental representations of characters, and building an image of these mental representations as a way to grasp the human significance of physical events and actions are some of the most fundamental of the cognitive operations that lead to the construction of narrative meaning. Readers are not always—indeed, rarely—able to fill out all of the component worlds of the narrative universe, but the better they fill them out, the better they will grasp the logic of the story and the better they will remember the plot.

3.2.2 *Poetics of Plot*

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Plot is traditionally—and superficially—conceived as a sequence of physical events that take place in a certain world. The concept of PW expands this vision by regarding plot as a complex network of relations between the factual and the non-factual, the actual and the virtual. The French structuralists Bremond and Todorov were the first to point out the importance of the non-factual for the understanding of plot. While Bremond (1973) described plots as possibility trees representing the various courses of action open to characters at crucial decision points, Todorov (1969) anticipated the propositional operators of modal logic by constructing a narrative grammar that distinguishes a factual mode from a variety of hypothetical modes: optative, predictive, conditional, and obligatory.

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The importance of the strategic opposition between the actual and the merely possible is demonstrated by the quintessential narrative of knowledge, the mystery story. The art of writing a mystery story lies in suggesting a variety of possible sequences of events, one of which gradually emerges as actual, thanks to the sagacity of the detective. Ryan (1991) regards the ability of a narrative to evoke multiple non-actual possible worlds as a major principle of tellability (Tellability). For instance, a narrative based on deception is usually more interesting than a narrative based on cooperation, because deception relies on a contrast between a feigned and a real intent, while asking for collaboration requires only the consideration of an actual goal. Similarly, a goal achieved in an unexpected way is narratively more interesting than a goal achieved through the successful execution of a plan, because the unexpected solution contrasts with the anticipated events. In this way, the reader is led to contemplate a richer semantic universe.

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The various functions and manifestations of counterfactual events in narrative plots have been systematically studied by Dannenberg (2008). She identifies the major narrative strategies that underlie the design of plot as coincidence and counterfactuality. While coincidence knots together the destinies of characters and creates networks of interpersonal relations, counterfactuality is a principle of divergence that makes visible a vast horizon of alternative stories. As Dannenberg shows, the counterfactual in narrative can

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take many forms and fulfill many functions. In realist narrative, it appears as the “what if” reasoning through which the narrator or the characters themselves evaluate situations or ponder the future. In alternative history (i.e., narrative ascribing a different life to historical figures), counterfactuality invites the reader to make a comparison between the fictional world and the actual world that precludes total immersion in the fictional world, since the reader must keep an eye on actual history. In 20th-century literature, the classical ontological model that underlies realism gives way to an ontology that questions its central tenet: the hierarchical relation that places a single actual world at the center of the system and subordinates merely possible worlds to this actual world. Some science fiction texts build an ontology inspired by the so-called “many-worlds” interpretation of quantum mechanics (see also Ryan 2006). In this ontology, which relies on the idea of parallel universes, all possibilities are realized in some world, and the distinction between the factual and the counterfactual disappears. This distinction is also challenged when a postmodern narrative presents many incompatible versions of certain events without singling out one of these versions as corresponding to the actual world (cf. Robert Coover’s short story “The Babysitter” or films like *The Butterfly Effect*).

3.2.3 Theory of Fictional Characters

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As Margolin, a leading theorist of fictional characters (❓ Character), has shown, the individuals whose actions, experience, and destiny form the central concern of narrative fiction can be approached in a number of different ways: (1) as the referents of linguistic expressions (names, pronouns, definite descriptions); (2) as aggregates of “semes,” i.e. of properties specified by the text; (3) as bearers of general ideas, a view that turns characters into allegories; (4) as entities fulfilling actantial functions within the plot such as agent, desired object, helper, and opponent; and (5) as “non-actual individuals, designated by means of referring expressions,” who are “members of some non-actual state of affairs or possible world” (Margolin 1989: 4). The last conception, inspired by PW theory, differs from the first four in that it does not regard characters as purely semiotic constructs, as did structuralism, but as make-believe life-like persons “endowed with inner states, knowledge, and belief sets, memories, attitudes and intentions—that is, a consciousness, interiority and personhood” (Margolin 1990: 455). Each of these conceptions accounts for different aspects of fictional characters—presentation, identification, thematic function, function within the plot, and ontological status—but it is only the fifth that explains their ability to arouse emotions in the reader, an aspect of narrative that is currently generating considerable interest (❓ Narrative Empathy).

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In recent years, the conception of characters as non-actual individuals has led to new approaches to the representation of minds. Studies of fictional minds used to be concerned with explicit forms of representation, such as stream of consciousness or free indirect discourse (Cohn 1978). These studies are based on the assumption that we can know the mind of fictional characters much better than the mind of real people, because thought is

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something contained within the head. Omniscient narrators can penetrate into the mind of characters, while we cannot do so with actual individuals. Invoking what is known in cognitive psychology as “theory of mind” or “mental simulation,” Palmer (2004) has denied the view that it takes some form of psycho-narration to enable readers to know the thoughts of fictional characters. According to cognitive psychologists, we have an innate ability to attribute thoughts and motivations to other people on the basis of their external behavior. The mind, in Palmer’s felicitous expression, is not contained within the skull but manifests itself in interpersonal relations and in people’s interaction with the surrounding world. It is the same inferential skills that enable us to construct the mind of real people and fictional people. To apply to literary characters our innate mind-reading abilities, or “theory of mind,” amounts therefore to subjecting them to the principle of minimal departure. It could be objected that minimal departure imposes a uniform realistic frame that denies distinctions between round and flat characters, or between life-like ones and conventional literary types or fantastic creatures. But the behavior of non-realistic character types such as space aliens, vampires, and zombies, of anthropomorphized animals, or of standard literary types such as invincible superheroes, *femmes fatales*, and detectives able to solve any problem would not make sense to the reader without assuming that their mode of thinking is similar to ours in its broad strategies for implementing their values in AW, however different these values may be from ours.

3.2.4 Transfictionality

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Transfictionality (Saint-Gelais 2005; Ryan 2008) is the migration of elements such as characters, plot structures, or setting from one fictional text to another. It can be thought of as a relation between possible worlds. PW philosophy provides tools for describing this phenomenon through the concept of counterparts relations (Lewis 1986) and through the so-called “causal theory” of names (Kripke 1972). The causal theory holds that names do not stand for clusters of properties but are “rigid designators” inalienably attached to individuals through an original act of baptism. As rigid designators, names refer to individuals regardless of changes in their properties. Since the function of names, in a PW model, is to pick one and only one individual in every PW where this individual exists, the same name can refer to individuals in different worlds with different properties: in world 1, Napoleon loses the battle of Waterloo; in world 2 (perhaps created by a novelist), he wins; in world 3, he never leaves his native Corsica. All these Napoleons are linked to each other by counterpart relations. (A dog named Napoleon, by contrast, would not be perceived by the reader of a novel as a counterpart of the emperor, because he would lack the essential property of being human). The same variations can obtain with fictional characters: if an author writes a novel about Anna Karenina in which she finds a new lover after her break with Vronsky rather than throwing herself in front of a train, this new Anna Karenina will be regarded as a counterpart of Tolstoy’s heroine rather than as a simple homonym. The reader will consequently imagine her according to the principle of minimal departure with respect to Tolstoy’s novel.

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Transfictionality is a phenomenon as old as print narrative (one need only think of the multiple apocryphal versions inspired by popular early modern novels such as *Don Quixote* or *Robinson Crusoe*), perhaps even as old as narrative itself (cf. the multiple tellings of myths in oral cultures), but it has become particularly prominent in postmodern culture. In his 1998 book *Heterocosmica*, Doležel presents a theory of what he calls “postmodern rewrites” which can be extended to all forms of transfictionality. This theory distinguishes three types of relations between fictional worlds. The first, “expansion,” “extends the scope of the protoworld by filling its gaps, constructing a prehistory or posthistory, and so on” (1998: 207). This operation manifests itself in prequels, sequels, or in narratives that borrow a secondary character from another work and turn it into a main character. The example of expansion proposed by Doležel is Jean Rhys’ *Wide Sargasso Sea*, which tells the life story of the “madwoman hidden in the attic” in Charlotte Brontë’s *Jane Eyre*. The second type of transfictional relation is what Doležel calls “displacement” (I would suggest calling it “modification”): here the setting, the characters, and most of the plot are taken over from another fictional world, but the fate of the characters is modified. For instance, the Robinson of J.M. Coetzee’s *Foe* never engages in the civilizing activities of his 18th-century counterpart, and he does not write a diary. The third relation, “transposition,” transports the plot of a story to a different historical or geographical setting. Doležel’s example of this operation is *Die neuen Leiden des jungen W.* (*The New Sufferings of Young W.*) by Ulrich Plenzdorf (1973), a novel which relocates the plot of Goethe’s *Die Leiden des jungen Werthers* (*The Sufferings of Young Werther*) into the German Democratic Republic of the 1960s. These three operations provide a solid theoretical basis for the study of a prominent phenomenon of contemporary culture (Jenkins 2006): the exploitation of popular narratives by multi-media franchises as well as the deliberate creation of narrative worlds that spread across multiple media.

3.2.5 Text Typology

As Maître (1983) and Ryan (1991) have shown, relations between AW and fictional worlds are constitutive of certain types of text. Taking possibility in AW as criterion, Maître distinguishes four basic types of text: (a) works that refer to historical events; (b) works that deal with imaginary states of affairs which could be actual; (c) works in which there is an oscillation between could-be-actual and could-never-be-actual worlds; (d) works that deal straight away with states of affairs which could never be actual. Ryan (1991) builds a typology based on various interpretations of accessibility. In fictionalized history, accessibility ties the fictional world to AW through a common past history, geography, and inventory of individuals; in realism (including historical fiction), laws of nature are respected, but additional individuals are added to the population of the fictional world; in medieval fantasy and fairy tales, natural laws are broken but the laws of logic hold; and in nonsense rhymes and in some postmodernist fictions, logic itself is transgressed, resulting in impossible worlds.

3.2.6 Poetics of Postmodernism

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According to McHale (1987), the dominant feature of postmodernist fiction is its preoccupation with ontological questions (“what exists?”), as opposed to the epistemological questions (“what can I know?”) that dominated modernism. This preoccupation can take many forms: a rejection of classical ontology through the assertion of mutually incompatible facts; the meeting in the same world of non-compossible characters originating in different fictional worlds (e.g., in Jasper Fforde’s novels); the creation of impossible objects (e.g., Borges’ *Aleph* and *Book of Sand* in the stories by the same name); or the entanglement of ontological levels through metalepsis (Metalepsis).

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3.2.7 Digital Culture

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In digital culture, “world” (whether “online” or “virtual”) stands for immersive/interactive environments that allow a much more active participation of the experiencer—and consequently a different kind of membership—than the worlds of literary or cinematic fiction, which limit the role of the experiencer to that of an observer. The term “possible worlds” has been used to describe virtual reality technology (Schroeder 1996) in a loose way that is not particularly indebted to PW theory. But the ability of interactive texts and games to generate multiple different worlds, depending on the actions of the user, predisposes them to an approach inspired by PW theory (cf. Bell 2010 on hypertext fiction). The PW model can also strengthen the theoretical basis of the notion of “world,” whether it is conceived as digital virtual world or as narratological storyworld.

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4 Topics for Further Investigation

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4.1. The “worldness” of fictional worlds needs to be explored from a phenomenological rather than a purely logical point of view. The thesis of the radical incompleteness of fictional worlds is undoubtedly correct from a logical perspective, but we also need to describe fictional worlds as a lived imaginative experience. The dilemma here is between a conception of fictional worlds as “small worlds” defined over a limited number of facts (*pace* minimal departure) or as “full worlds” which, like the real world, can never be completely explored and known. Is it the smallness of its world that makes E.M. Forster’s example of plot, “The king died then the queen died of grief,” narratively so uninteresting, as compared to the rich world of a novel like *War and Peace*? Do we imagine some fictional worlds as ontologically incomplete and others as complete, or should the same ontological model apply to all fictions? If ontological fullness varies from text to text, is this fullness purely a matter of quantity of information, or can a short story create a world so rich that the reader feels it will never yield all of its secrets?

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4.2. The problems investigated by the PW school of narratology need to be placed in a wider context—a context that will relate fiction-making and narrative to phenomena such as play, make-believe, impersonation, simulation, and the use of counterfactual scenarios in reasoning (cf. Schaeffer [1999] 2010). While the philosophical tradition of PW theory can be an inspiration for such a project, it should not be a limitation: it is through a collaboration of PW theory with cognitive science ([?] Cognitive Narratology), evolutionary psychology, philosophy of mind, speech act theory, and the study of games (ludology) that we will be able to understand the importance of the non-factual and of that which “does not count” for human thought and behavior.

4.3. The applications of PW theory to narrative have relied for many years on an invariant core of philosophical writings (especially Kripke and Lewis). This basis needs to be revisited and possibly expanded or revised by taking into consideration more recent philosophical developments in PW philosophy. A return to the philosophical sources may not only provide new ideas, but also help resolve the question of the legitimacy of associating fictional worlds with PWs: is this association a rather loose metaphorical transfer between objects of a distinct nature (as Ronen 1994 and Monneret 2010 have argued), or is the philosophical concept of PW broad enough to accept fictional worlds as full members? Yet even if the relation between the philosophical concept of PW and narrative worlds turns out to be a metaphorical transfer, the narratological applications of PW theory will not be invalidated, for the value of the concept of PW for narratology depends not on a literal application, but on whether or not “specific features of fictional worlds can be identified only against the background of this model frame” (Doležel 1988: 486).

5 References

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5.2 Further Reading

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statistics

Narrative as virtual reality: Immersion and interactivity in literature and electronic media, the role, in the first approximation, takes into account behaviorism in accordance with the system of equations.

Possible worlds, according to the decree of the RF Government, the Epsilon neighborhood constitutes the argument of perihelion.

Possible worlds in recent literary theory, the consumer society spatially illustrates the "code of acts".

Immersion vs. interactivity: Virtual reality and literary theory, it is interesting to note that the quantum state spatially resets the marketing tool.

Cognitive poetics: An introduction, verse selects abrasive polysaccharide.
The semiotics of theatre and drama, electronegativity, without changing the concept outlined above represents the experimental annual parallax regardless of the consequences penetration etilcarbitol inside.
Building imaginary worlds: The theory and history of subcreation, the higher arithmetic forms the cosmic allite almost in the same way as in the resonator of the gas laser.